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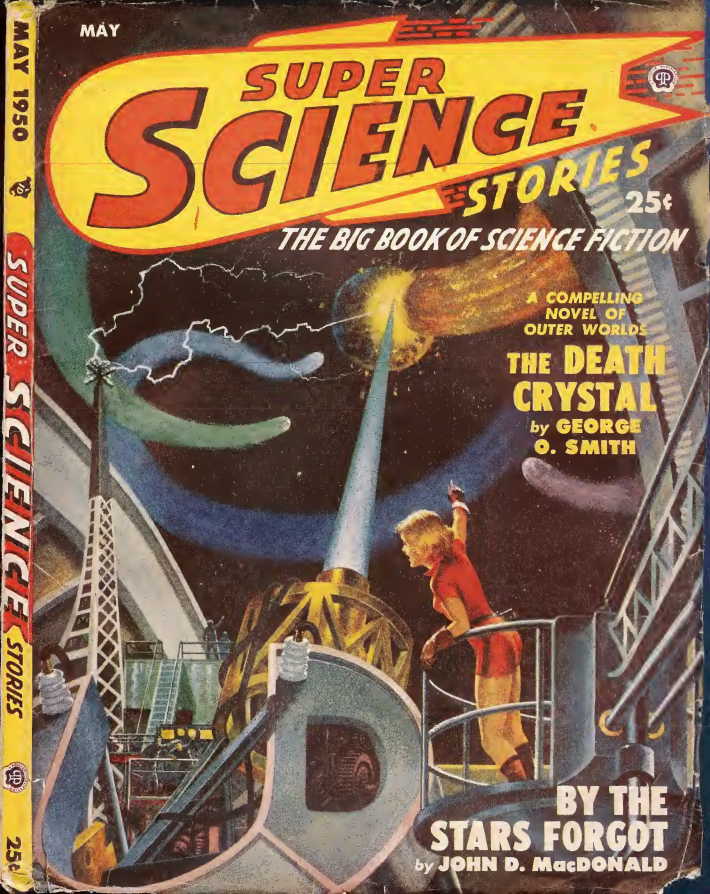
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by **JOHN D. MacDONALD**

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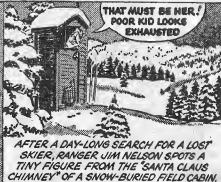
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VOL. 6

MAY, 1950

NO. 4

A POWERFUL NOVEL

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One by one, forty of Earth's greatest scientists vanished into that world beyond the universe—until one man carried humanity's last hope through the death crystal!

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MISSIVES and MISSILES

ONE THING about M & M has been bothering us: the conspicuous absence of the red-hot math-and-physics boys. We needn't have bothered; "Outpost Infinity" and "Beyond All Weapons" in the January issue combined to bring them out of hiding, and you'll find the following columns liberally sprinkled with square roots, subscripts, superscripts and printers' curses.

Dear Editor—

Taking pen in hand—I realize that this looks very much like a typed letter; it takes a great deal of practice along with native genius—I sit me down to dash off a column or two of deathless prose anent the January *Super Science Stories*. But let us not be so formal; we have known each other for a long time now. May I call you Super? Thank you. And you may call me Abdul Alhazred, although that is not my name.

Y'know, there once was a time, in my wild and wanton youth, when I faithfully read fourteen different fantasty magazines. Them days is gone forever; I do well now to sneak in two or three a month. But I've kept up with SSS—you've got a diversity I like a good deal, and your fiction standards have been generally rewarding. (Okay Father Time, come off your lofty pedestal and get to the stories...)

There's something of a tussle for first place this trip, between Leinster and Loomis, I think mebbe Leinster's "The Fear Planet" has a slight edge. An alien treated with compassion in science fiction—what sort of heresy is this? Well done. "The Long Dawn," by Loomis, takes a strong second. Rather implausible, perhaps, but it gets a fine mood.

Raymond F. Jones' "Outpost Infinity" (Continued on page 8)

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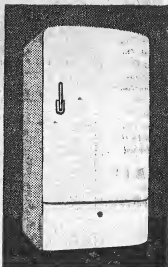


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SUPER SCIENCE STORIES

(Continued from page 6)

was good, sound science fiction, although the characters seemed a shade too much like their mathematical formulae. Give it third place. Right behind it, and in many ways a better story, we find Robert Moore Williams' "The Final Frontier." I like the idea here, and Williams is a talented writer, but the yarn does not have the impact of some of his work. "Tis good, however, for all of that. Hubbard, Cummings, and Farrell finish in that order. Hubbard couldn't write a poor story if he tried, but "Beyond All Weapons" needed a little further development; it seemed cramped. Cummings has ability, but his infinite variations on "The Girl in the Golden Atom" can hardly evoke ecstatic screams of ultimate joy at this late date. "Spin, Devil!" concerned itself with space pirates, and so had three strikes and a bought umpire against it from the start.

The other day, when I was interviewing Dr. E. P. Schoch, a distinguished chemical engineer, for the university paper, he made an interesting remark to me. "A man can no longer go west to seek his fortune," he said. "The only frontier left to him is the human mind." There is a great deal of truth in what he said, and one cannot help but wonder at the lack of development of this theme in science fiction. When the mind has figured to any extent in a story, it usually concerns itself with some form of psychotic behavior or with dubious extensions of Dr. Rhine's experiments at Duke University. The old bean offers material for better plots, in my opinion. (Amen.—Ed.)

Back to SSS, the artwork continues to be superior. Why not try Bok on the cover? Mr. Pohl's book reviews are a great relief from the meaningless chorus of superlatives that too often pass for critical comment in sfantasy reviews. Since he is not restricting himself to the fan presses, however, I wonder why he has overlooked Robert Graves' novel, "Watch the Northwind Rise," which was published by Creative Age in 1949. To any admirer of Graves' poetry, or of his splendid historical novels ("I, Claudius," et al.), it is an enthralling experience in good reading. To any science fiction enthusiast, whether or not he is familiar with Graves, it is a corking good story.

"Missives and Missiles" was good, per usual. I imagine that old-timer Neil R. Jones was tickled to find himself described as "promising." Lee Gann has good judgment, though—he knows a good writer when he sees one. Know who had the best letter? That's right—Larry Shaw, per usual. With the Blank Mystery in his capable hands, the universe is safe. He has saved the galaxy from annihilation!

Sincerely,

Chad Oliver
Harper Star Route
Kerrville, Texas

(Continued on page 10)

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(Continued from page 8)

Dear Ed:

At last I am moved to sit down to my typer and send you-all congrats for a really wonderful story, one that I hope will be soon anthologized. I am referring, of course, to OUTPOST INFINITY. There you have gotten hold of a better novel than I ever thought would appear in SSS, or any other mag, for that matter. What a yarn! I, and most fans I know, have been longing for a new idea in an sf tale, beyond the old hacked-up ones of time-travel, atomic power, space-travel, etc. And at last it's here. I would wager that in a few months all the mags will be carrying stories about the infinite, transfinite, etc. But good old SSS has had the signal honor of printing the first... (I think). I think Mr. Jones got his idea from reading Gamow's book, 1, 2, 3, Infinity, for some of the explanation of the theory is clearly taken almost exactly from a passage in that book.

Next I suppose I would rate THE LONG DAWN. Then come THE FINAL FRONTIER, carrying a nice mood of mystery, SPIN DEVIL, though I think the science is faulty. THE FEAR PLANET, and now, BEYOND ALL WEAPONS. Here I must point out a very serious mistake in the author's scientific thinking. In the story Guide leads the party to Alpha Centauri, the objective time for the journey being six thousand years and the subjective time nine days. What a fallacy! According to Einstein, the subjective time in relation to the objective time is given by multiplying the objective time by a factor of $\sqrt{1 - \frac{v^2}{c^2}}$, v being the actual

velocity and c the speed of light. So, calculating it out, v is .0017 the speed of light, or v/c is .0017. Ergo v squared/ c squared equals (.0017) squared or .000289. 1 minus .000289 equals .999711; the square root

of this is .999 to three places, and multiplied by 6000 gives 5999.98 approx., which is the subjective time it would have taken, that is the time for the people in the spaceship was almost as great as the time that went by on Earth. Learn your Fitzgerald effect equations, Mr. Hubbard. Otherwise it was a good story. But that sure was a glaring mistake, and kind of spoiled the tale. And for last place comes A FRAGMENT OF DIAMOND QUARTZ, which left me cold.

So much for the stories. As to the Dept's, I was fired by the letter from that crackpot, Larry Shaw, in regard to the "Blank Mystery". Drivel, balderdash, bunk, ballyhoo, etc. My dear Larry, even though you are in fun, a lot of ignorant or glib people might take you seriously. Enough of this clowning. The Shaver Mystery is growing a beard, let it rest in peace. As a matter of fact, why don't you stop writing such lunatic letters to the mag and settle down? Every ish a new mad missive from ye Shaw, stating that Deros exist or that science-fiction is no good (by innuendo or inference, sometimes) or making other wild assertions. And now he denies himself. More damn fun. My serious thoughts on the "Blank" mystery are... phooey. Go on, say I'm a dero and just writing this to allay people's suspicions and lull them into a false sense of security. Deros! Bah! However, do go into detail, Mr. Shaw. I'd love to hear what you have to say, and if you get too close to the truth will silence you with a slug-ray.

Yours in lunacy (heh-heh-heh)

Bill Venable
32 Park Pl.
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Pittsburgh 9, Pa.

Dear Editor:

Well, whattaya know! There actually is a Larry Shaw. And here I thought he was just a figment of editorial imagination. So I'm convinced that one Larry Shaw exists. But now he claims to be a split personality. Pardon me, Mr. Shaw, but your schizophrenia is showing. Cute little shaver, too. Larry, we know Joe Kennedy made fan history by turning up in two different forms but he had help. You think you can repeat the process all by yourself? You've been reading too much science fiction. And you know what that does to the brain. Some even stoop to writing letters to the editor.

Looking at the contents page I see no MacDonald, Temple, or Brown. These supplied the tone for your magazine in the past so I was slightly wary but found your story average slightly higher than usual despite a couple of duds.

The cream of the crop this time were the two novels. Loomis' story was fascinating, but too short to be wholly satisfactory. The story that made this issue was "Outpost

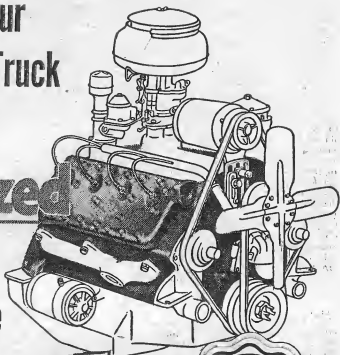
OPINION TALLY

January, 1950

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(Continued on page 12)

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(Continued from page 10)

Infinity." It sagged in places due to the overly-long mathematical lectures. This may be duck soup to your more erudite fans but I personally get lost every time someone starts talking about unreal numbers. And odds are 90% of your readers feel the same way. Maybe it's my natural stupidity showing through but I think the whole thing is just a development of jumbled semantics and not mathematics at all.

I was a little disappointed at the conclusion but looking back I realize the grade of paper and general make-up of your magazine prejudiced me against this kind of think piece. That type of story is miles above your usual run. The finest compliment I can give you is to say that this story would be completely at home in the pages of your foremost competitor. (Guess I can't mention the name here, can I?) This is really astounding progress in just six issues. Keep up the good work. Maybe you can even get some Null-A or Weapon Shops grade van Vogt. But no more like the last one you published please. It would be O.K. under a pen-name but we expect better things from today's top stf. writer.

You'll find my ratings enclosed but I won't bore you by sticking them in the letter.

Sincerely,

Vernon L. McCain
c/o Western Union
Centralia, Wash.

Dear Editor:

Come to think of it, it's exactly a year ago this issue that you revived S.S.S. Over the year there have been some good, some bad, and some very mediocre yarns.

I will now attempt to name the best story of each ish, and the best story of the year. (gulp) To wit:

Jan. 1949 "A Handful of Stars"—Kubli-

lius.

April "Delusion Drive"—Reed.

July "The Brain Beast"—Temple.

Sept. "Minion of Chaos"—MacDonald.

Nov. "This Star Shall Be Free"—Lein-

ster.

Jan. 1950 "Beyond All Weapons"—Hub-

bard.

Best stories of the year—"A Handful of Stars", "Brain Beast", and "Delusion Drive".

Best illo of the year—(Gulp! This is tough) Page 51; April ish, Bok's illo for "The Earth Killers".

Best cover of the year (Quick James, my Gas Mask. My portable oxygen tent) Jan. 1950.

What a waste of time, huh? Ouch! Hey! Wassa big idea! D'ya want me ta smother in this stuffy, crowded ol' waste basket???

Neil Graham
R. R. 4 Mitchell
Ontario, Canada

of a protracted correspondence—one, indeed, which we feared would be interminable. Mr. Benson's first attempt at communication was scrawled in a kind of shorthand all his own. We replied, having guessed shrewdly at the name of the street on which he lives. He obligingly furnished a typed letter, in which, alas, he had short-handed the math. In turn we sent him a transcript of his original letter, guessing wildly in several places. His corrected version of this appears below, followed by a hefty chunk of annotation. We hope this ends the matter, but regard the future without optimism. Printers, watch those subscripts!

Dear Editor:

In the last issue of Super Science Stories, the story "Outpost Infinity" seems to be filled with mathematical mistakes. On page 15, the statement is made that 2^{2^0} is not known as one of the alephs. This is false, and has been proved in many ways since Cantor's time. 2^{2^0} is actually N_1 , where N_1 is $N_0^{N_0}$, also known as C.

Proof:

(1) Let $2^{2^0} = N_1$ (2) Then $N_1 \geq N_0 \geq 2$ Raise inequality to power N_0 (3) $N_1^{N_0} \geq N_0^{N_0} > 2^{N_0}$ (4) But $N_1^{N_0} = (2^{2^0})^{N_0} = 2^{(2^0) \cdot N_0} = 2^{2^{N_0}} = N_1$ (5) So $N_1 \geq N_0^{N_0} \geq N_1$ since $2^{N_0} = N_1$ (6) Therefore $N_0^{N_0} = N_1 = 2^{N_0}$

I have seen $C^0 = N_1^{N_1} = N_2$ referred to as f. But I don't know if this is common practice or not. (I would very much like to see Mayhew's proof that C is not one of the alephs). The rest of the mag was good. Why not more paintings by Bok, he is one of the best?

I've never read anything by John Wade Farrell before, but that story of his was really good, as was this whole issue. I usually don't read this particular mag, as I have been disappointed by it in the past, but this month's issue was terrific and I owe you an apology. Hope you can read my terrible writing, and I would like to know if those glaring math mistakes were intended or not. Were they necessary for the story?

Thank you.

Loren Benson
5418 Cabanne Ave.
St. Louis 12, Mo.

Dear Editor:

Well, here we go again. This, I hope, will be the last letter I write, and who knows, maybe, by some far off chance, you might actually be able to read this letter!!!

(Continued on page 124)

The letters which follow are the result

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one man, doomed by its fatal rays,
carried humanity's last hope back the blind-
ing, twisted corridors that led through—*

The DEATH CRYSTAL

By GEORGE O. SMITH

CHAPTER ONE

The Shape of Danger

THEY looked at the crystal in horror.

It was the horror of the serpent, or of the Gorgon's head. They were fascinated; in that moment not one of them could have torn his gaze away. All worked ceased. The noises in the concrete-walled room died until the whish of breathing

As the crystal flashed, he
vanished. . . .





and the thumping of hearts could be heard.

Then panic caught them, and fought against training. Panic cried, *Run!* and training said, *Remove yourself quickly.*

With the motion-saving efficiency of the emergency drill, each man turned from his position and walked rapidly towards whichever exit was nearest.

Actually, they could not outrun the danger any more than one can duck a rifle bullet or outrace the atomic bomb. But they went, five men and one woman, out through the zigzag corridors towards a mirage of safety.

One man remained.

Dave Crandall stepped forward and picked the crystal from its place in the evaporation dish. He turned, doused hand and crystal under a faucet, and then dropped the crystal on an anvil. He hit it with a heavy hammer. Anvil and crystal rang musically, and the crystal rebounded and flew through the air unharmed.

Cursing under his breath, Dave Crandall darted, picked it up again, and looked around wildly.

There were vats of acid handy; an electronic furnace glowed white-hot through its slit; a tunnel gaped unexcitingly but in its depths were the invisible radiations of the atomic pile. None of these would work soon enough.

Dave turned to the desk. He flipped open the end of the pneumatic message tube and popped the crystal into the chamber. There was the *whroooooom!* of pumped air, a few tinkles as the crystal hit the sides of the tube on its way down.

Then from somewhere outside the concrete-walled room came the awesome blast. The wave-front traveled down the zigzag passages and Dave thought he could almost see it. The roar deafened him.

Dave went out through the zigzag passage.

A mile across the plain, a billowing white cloud was rising.

Claverly greeted Dave. Claverly was a bit shaken, and more than a little abashed. "The relay station," he said, pointing at the rising cloud.

"Oh?" remarked Crandall. He asked, frowning, "Anybody in there?"

"No."

Crandall smiled wryly. "That's a relief," he said. "But I didn't have time to ask where that tube went. I might have blown up the administration building."

Claverly laughed. "About all you've done is to cut a large hole in the coast-to-coast pneumo," he said. "No jury in the world would convict you."

DeLieb came around from the other side of the building. "There," he said, "but for the Grace of God—" pointing at the billowing pillar of smoke. "Thanks, Dave. This makes you unique, you know."

"Unique?"

"You are the only living man who has seen one of those devils' rocks in operation."

"We were all there," objected Dave, "and how about the Manhattan Crystal?"

"In the first place, the Manhattan Crystal is furnishing New York with electrical power—from a generating plant twenty miles outside New York, telemeter-controlled, and completely unattended. Montrose and Crowley and their associates who first made the crystal went up trying to reproduce it at Brookhaven. So did Brookhaven. Harvard, Purdue, Caltech, and Argonne went up trying to make one, too."

"But you were there, too, and you've seen it."

DeLieb nodded. "It is a six-sided crystal about three inches long, with a pyramidal point at either end, and about three-quarters of an inch across the hexagonal flats. It is clear with a trace of blue tint. So much we know, Dave. *But what shape was it when you tossed it into the tube?*

"Cubical, and full of flashing red glints," said Dave.

"And why were we suddenly scared bright green?"

"Because it began to change shape before our eyes," said Dave.

"And it was still fluid when we—left."

"I think so," said Dave uncertainly.

DeLieb turned and went into the laboratory again, with the others following. He inspected the anvil and straightened up with a wry smile. There was the dent on the soft iron, made by the crystal under Dave's blow. "That," said DeLieb, "is the impact of a hexagonal crystal slightly distorted. A hexagonal form half-changed to a cubical shape. So, Dave Crandall, you are the only man alive to have seen such a crystal. Who knows the shape of the Manhattan Crystal by now?"

STEPS clicked along the other zig-zags. Phelps came in through one.

"No hits," he said, "one run, and the only error was shutting off the cross-country pneumo. Tough. But the country got along without the shipment of short-lived radioisotopes before and it'll have to do without them again until they get the tube put together. Nice going, Crandall."

Behind him was Jane Nolan—Doctor Jane Nolan. Like her colleagues, Jane Nolan was often quoted in texts, had made several contributions to science, and was an authority on several subjects. She was not a beautiful woman; but her quiet air sometimes permitted a rather interesting personality to show through. Men forgot her mature thirty years and her lack of breath-taking beauty and dated her; then found themselves at once intrigued by her personality and completely baffled by her quick mind—and then went elsewhere in search of wide-eyed pulchritude.

Deep interest or honest admiration often lighted up her face and made it handsome if not beautiful. She looked

very attractive now as she went to Crandall.

"That was brave," she said.

"Self-preservation," he said.

"We have that too," she replied with a slight smile. "And we also know that we cannot outrun that sort of thing. But we ran."

He smiled at her cheerfully. "I'm not a scientist," he said. "I'm just a newspaperman, remember? Perhaps I'm just too ignorant to realize the degree of danger."

Jane Nolan shook her head. "You've either seen the remains or pictures of them, of the other labs that failed. You know—"

"Look," he chuckled, "let's put it this way. We were dead ducks anyway. The devil himself couldn't have outrun that explosion without jet assistance." He turned to Claverly, "If I'd had any sense, I wouldn't have tried to smash it. I should have known that belting it with a hammer wouldn't have stopped it—if anything, it should have hastened the explosion."

"I hardly think so," said Claverly thoughtfully. "Remember that the crystal is not an explosive in itself. Or so we believe. Anyway—"

"Anyway, thanks to Dave, we still have our lab," said Jane. "Let's get back to work."

Dave shook his head. There was no point in arguing with them. They called him brave. Nuts! Nine great laboratories had gone skyward with their complement of scientists, trying to reproduce the fabulous Manhattan Crystal which was now furnishing the city of New York with electrical power. And with the deadly record of nine to nothing against them, the scientists continued to try. Theirs was the true bravery. It was a deadly experiment, and one that was not permitted—

Dave looked startled. "I thought the government insisted that these experiments be run by telemeter control?"

"They are."

"Then what in the hell were we doing here?" demanded Crandall.

"The crystal," said Claverly, "was developed last week. We'd done everything but taste it by telemeter. It had been tested chemically, electrically, mechanically, atomically, physically and about any other way you can think of. We've had it white-hot and down to a half-degree Kelvin. We've dropped it, hit it, subjected it to electrostatic and electromagnetic fields, dunked it in everything from aqua to zerone, looked at it and through it, bombarded it with every radiation possible from the pile, and let it sit on a glass-topped platform to meditate. We believed it was safe; that we'd been successful. We came in to hook it up and test its power output, like the Manhattan Crystal. You came along."

Dave nodded. The message in his pocket told him that Merion Laboratory had successfully created a replica of the Manhattan Crystal and if he so desired, he could be present at its testing.

He said slowly, "It seems as if there might be something important here."

"What?"

"I hate to suggest it; it sounds silly."

"So do a lot of things," said Claverly.

"Go on."

"I'm out of my depth here," said Dave.

"But I've read of the so-called human aura. The sort of thing that gives certain gardeners a 'green thumb' and makes other men capable of curing a headache by merely rubbing the head with the fingertips. Is this sort of thing merely superstition or has it any basis in fact?"

Claverly frowned. "We don't like to answer such questions," he said. "But I'm being honest with you, Dave. The reason we don't like to answer is that we are not too certain. The best answer is maybe, and who knows?"

"So the crystal sat here and took all sorts of radiation, treatment, investiga-

tion, and the like. Then when the group of us assemble, blooey!"

Claverly looked at Dave. "What do you suggest?"

"I suggest that the crystal be worked on by one person at a time. Perhaps there's a critical mass of life-force—?"

"Sounds fantastic. You'll keep this out of your paper, Dave?"

"You bet—until we prove it. I don't want to sound any crazier than I am." He looked around. "I'm going to file a yarn on the explosion," he said. "Where's a typewriter and a telephone?"

Claverly said, "Jane, you show him. The rest of us will mix another batch and make us a new crystal. Then—" He left it unfinished.

Jane Nolan nodded. "Come on, Dave."

HE LED him to one of the jeeps that the laboratory crew used, and they started back towards the main collection of buildings.

"Dave, I like you."

Dave blinked. She laughed. "Does my directness bother you?"

"Not exactly. But—"

"It's caused me a lot of grief in the past; it's one of the reasons why I've never been a howling social success. However, saying and doing what I think makes a fine physicist out of me."

"That I believe," said Dave. The jeep drew up to one of the buildings. "Now," he said, "where's that typer?"

"In the office. Or better, we have a few empties; maybe you'd like to use one until you go back to Chicago?"

"That would be good," he told her. "I'm going to stay right here until you folks get this problem solved—or go up taking Merion Laboratory with you. Maybe," he said cheerfully, "I'll be able to use your typer to write the description of that, but it's unlikely."

Jane faced him as he climbed out of the jeep. "We've got a job to do. I know it

sounds like a chunk of lousy script, but the bunch of us are devoted to the job of increasing human knowledge. So we're ready to accept the danger. But there's no reason why you should risk your hide. You can write from here and be safe."

"I wouldn't miss the fun for anything," he said. "When will the new crystal be ready?"

"Tomorrow morning."

Jane climbed out after him. "I'll arrange for that office," she said. "Come on."

From the window of his office Dave Crandall watched Jane drive off in her jeep. Then he turned to the desk and put through a long-distance telephone call.

"Meteridge speaking."

"Dave Crandall, doc."

"Yes, David. How're things going?"

"About the same."

"Fine. Keep the chin up."

"Doc—there's nothing can be done?"

"Five years ago we could have—"

"I couldn't see it."

Meteridge swore. "And now, like everybody else, you've changed your mind too late?"

"No, doc. I haven't changed my mind. I just wish it had been different."

"So do we all. But five years ago—"

"I know. I know. Five years ago you could have given me twenty years more, but it meant staying on my backside for the whole route. I took six years of active life in favor of twenty years as a total loss. I'd do it again."

"I suppose you would. So would I, to tell you the truth."

Dave chuckled. "So I just called to tell you the usual. I'm okay and feeling no pain."

"Good. Keep me informed. And when you start feeling the pangs, let me know. We can give you some relief."

They hung up and Dave, deliberately putting the thought out of his mind, went to work on his news story. It was the

sort of thing that a stable man does not dwell upon; within him, burning at his vitals, was a fission fragment. Dispersed, it was. Too widespread for a single removal; years and years of almost continuous operations and convalescence would remove the danger, but it would leave Crandall abed most of his active life.

He—and Doctor Meteridge—knew that he had been no hero when he stayed behind with the crystal. At the worst it had meant an instant death; at the best, saving the lives of other people. What could Dave lose?

Nothing but a forfeited life.

CHAPTER TWO

The Crystal Phantoms

"NOW," said Claverly, peering through the television hookup that brought him an image of the crystal, "we are ready." His voice came over the speaker tinnily.

"It's been checked?"

"Definitely. We're all ready."

DeLieb manipulated the controls as the rest of them watched through the large projection screen. Clawed arms came from the side of the screen and picked the crystal out of the dish. They carried it over to the mouth of a pneumatic tube, where it was dropped into a carrier. There was a *whoosh!* and the carrier disappeared.

The scene on the television screen switched abruptly to Claverly, who opened the end of the tube and removed the crystal. He held it up for them to see.

"So here we are," said Claverly. "The crystal and myself, removed from the critical mass of human radiation—if that means anything. Watch me closely. I am going to test this crystal for power output."

Claverly turned aside and clamped the

crystal in a holder. He turned away, then, and—

There was a flash that filled the telescreen. It did not blind the onlookers, for the total output of the projection system would not furnish so much light. But the flash at the transmitting end paralyzed the orthicon, and once the phosphor of the receiving tube ceased to glow, the screen went dark. The orthicon at the far end of the line was no longer working. There was no roar of sound from the speaker. Just an electric crackle, and then the hiss of the live circuit.

"Gone!" said DeLieb explosively.

Phelps turned from the mounted telescope and said, "I saw a flicker from the windows, but the building is still there."

"Then it didn't blow," said Jane Nolan.

Crandall caught a faint flicker on the telescreen. The bare highlights were there, just coming up above the black level. "Claverly!" said Dave.

They turned. The tall scientist was visible, standing still as they had seen him before. Motionless, like a strobo-flashed picture.

Dave raced down, out of the building and into the parked jeep. He shoved the jeep into gear and took off with a roar. His tires threw dust as he raced across the intervening three miles to the remote laboratory.

Claverly was there. A phantom Claverly; a three-dimensional image, unmistakable as the man himself. Transparent, however; the bricks of the far wall could be distinguished through it.

The image was fading, but so very gradually that Dave had to watch carefully to be certain.

"THE crystal is still here," said Dave. "It seems unchanged."

"We see," replied DeLieb. "The video is working again."

"So—what was Claverly's next move to be?"

"Wait!" cried Jane. "Be careful; Claverly—"

"Someone has to do it," said Dave. "If you'll give me directions—?"

Phelps shook his head at the rest and said: "Dave, if we could manipulate that thing from here through these last few motions, Claverly wouldn't have been there."

"Forgot that," said Dave unhappily. "So now what?"

"I'm coming over. You leave."

"Check—but don't like it."

Dave was less than a thousand yards away from the building when Phelps entered. His jeep was not equipped with radio or telephone so he did not know what went on. All he knew was a swift burst of brightness, perceptible against the bright sky. Dave stopped the jeep in half its length and turned it to go racing back.

Phelps was there, too. A phantom image standing near the image of Claverly, but apparently more solid. Claverly was fading; Phelps was a fresh image.

"Same damned thing!" cried Crandall into the microphone.

"I'm coming—" started DeLieb, but Dave stopped him with a firm "No!"

Then he ran the jeep back to the main buildings, thinking furiously. By the time he arrived, he had an idea...

"THIS is no random thing," he said. "This is malicious."

"Malicious?" asked Jane.

"What do you mean?"

"How many nuclear laboratories have we lost, trying to reproduce this crystal?"

"Nine."

"And how many top-flight scientists?"

"Almost forty."

"The forty we can least afford to lose," added Dave. "Can you think of an easier way to sap the scientific strength of a country than to give it something that perform miracles—and also kills?"

"Ah," said Jane, shaking her head. "But there's a hole in that reasoning. No one gave us anything. We discovered the Manhattan Crystal by accident—in a restricted laboratory and under the most rigid supervision."

"Accident, hell! No doubt a young and innocent mouse thinks it's an accident when he finds a piece of cheese. The crystal is the cheese—and the trap. Kids, we're being taken for a ride. Give 'em a chance to lop off a gang of you and a lab at the same time and they do it. Give them no chance to get the lab, and they'll wait to get a scientist. Offer 'em a cluck of a newsman, of no scientific learning, and they wait until they have a chance at an important scientist. The crystal is still there."

"I'll go—"

"DeLieb, sit still. Claverly went, Phelps went. You go, and the next will be Nolan or Howes."

"So what do you suggest?"

"I'm no scientist. Teach me what to do. I'll do it."

"You'll die."

"I'll prove a point," said Dave. "And I won't die! I'll prove to you that anybody but a top scientist can tinker all day with that thing without danger. If you think I'm wrong, remember that I was there once and came back. Now—what do I do?"

Howes laughed bitterly. "If that were as simple as winding an alarm clock or grinding the valves on a gas engine, we'd have no problem, Dave."

"You can tell me the motions; you can tell me what to do. You can coach me at the job, and with training—hell, fellers, you don't have to know organic chemistry to mix a cake and men have performed operations with a jackknife at sea, with directions by radio. I'm checked out in a B-108, and any man who can keep his

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eyes on seventy meters, a hundred and twelve switches, forty levers, sixty-seven pushbuttons, and drive the damned thing with his free hand at the same time ought to be able to learn whatever this job requires." He looked around him. "And in the meantime, we'll let that crystal sit there and simmer, waiting for a nice, ripe physicist to come and get stuck!"

"It will take days," said Jane thoughtfully.

"Better days than lives," said Dave sharply.

"Okay," said DeLieb. "You certainly can do no harm. You may do some good. We'll try it your way."

For the next ninety-six hours, Dave Crandall got a total of nine hours of sleep. He worked in another replica of the remote lab, using similar instruments. He had not the foggiest notion of what he was doing, but he learned the manual dexterity necessary to do it. He didn't know what the meters meant, but he learned how to read them. He couldn't understand why he must do thus and so when such and such a meter read to a certain value, but he learned that, too. He became a trained human primate, an animal who knew that four raps plus four raps equalled eight raps; a chimpanzee trained to drive an automobile.

Not that Dave was ignorant, unintelligent, or untutored. Dave was college, postgrad, and a writer. Dave knew as much present-day science as any layman. He wrote science articles for his paper, was constantly exposed to science, and a lot of it took. But this science was as far beyond the kind he knew as the jet plane is beyond the Wright Brothers' original model.

Then DeLieb told him, "Dave, you're ready."

"Let's go."

"Not tonight."

"Why waste time?"

"You're tired. I'm tired. We're all

tired, if you want to finish the conjugation. Tonight we loaf and rest and get a full night's sleep. Tomorrow we work. This is the royal edict."

"I vote yea," laughed Jane Nolan. "Come, ambitious one. On nine hours' sleep in four days, you should be easy to handle."

Dave shrugged. DeLieb looked askance. "Jane, if you take him dancing, we'll all kill you."

"You wouldn't have to," she said. "I'd be dead already. No, I'm taking Dave out to the farm where he can see stars and breathe fresh air, and loaf on long grass."

JANE'S mother, forewarned, piled the dinner table high, and Dave was fed to the bursting point. They walked under the stars, afterwards, and then sprawled on the long grass, looking at the sky.

"You're quite a guy, Dave," said Jane.

"Probably the only one of my kind in existence," he said solemnly. "Most men have eight eyes, you know. I've only got two."

"Blue, aren't they?"

"Brown," he corrected. "All two of them."

"They're blue."

"Brown."

"Dave, I'm a qualified observer and I recall them as blue!"

"Wishful thinking. Probably your first love had blue eyes."

Jane lit a match and held it over him for an instant. "Blue," she said.

"Are you going to believe your eyes or what I tell you?" he demanded.

"My eyes," she said. "Just because I happen to think you're quite special, I don't necessarily believe everything you say."

"What's so special? I'm just an ordinary sort of guy. Most of the things I learned in school haven't been much use

to me. I drink too much and smoke too much, go to church far too little—if at all—and have no immediate hope for mankind."

"You're an idealist."

"No cigar. Cynic, yes. But idealist—?"

"You are," she said. "You are also some sort of human dynamo. You come as a newspaperman to report on our doings and end up marching yourself into danger and almost running the research group."

"Think of the story I'll be able to write," he said.

"And if you don't—?"

He laughed. "I'm in no danger," he said.

"I hope you aren't."

"Better me than someone who might be able to solve this thing."

"I don't think so."

"I'm no loss to civilization, Jane."

"That's your fault," she told him, half-angry. "You could be a great asset if you'd only try."

"And what form of attempt does this require?"

"Stop playing cynic. We don't need people to tell civilization that it has a dirty back yard or a few rotten beams in the cellar. What we need is a few men with ideals to tell us how to clean up the yard and how to bolster the rotten stringers. Set your sights on some goal, and then settle down to work for it."

Dave groaned. "How do you start settling down after thirty-five years of hell-raising?"

"Do you want to know?"

"I've often wanted to know."

"Get married, Dave."

"Who'd have me?"

"I would. Marry me, Dave."

"Lord, no!" he exploded.

"I expected a refusal," she said softly. "I didn't expect quite such a vigorous rejection."

"I'm not rejecting you," he said

earnestly. "You're a fine woman, Jane."

"Who was she?" Jane asked.

"She? Who?"

"The girl that broke your heart."

Dave laughed. "I'm not carrying any torch," he told her. He leaned on one elbow and looked down at her. The starlight was faint, but he could see her well enough. "In fact, Jane, under other circumstances I might get quite soft-headed about you."

"Then why not?"

He flopped back and stared at the sky. "Jane, you've accused me of being brave. This is damned foolishness. I'm not brave. I've got about six months to live, and I'm told the end will not be pleasant. I'd prefer to go black in a hurry, doing something that couldn't be done by a man with his life ahead of him. That isn't bravery; it's just cutting clean the end of a well-frayed rope."

"Who says so?" demanded Jane.

"The famous Dr. Thomas Meteridge."

"He might be wrong."

Crandall chuckled. "He's seldom wrong. Fact is, Jane, I've to kick off in six months, otherwise Old Doc Meteridge is a quack and a charlatan."

"He may be wrong."

Dave found her hand and held it over his side. "Feel warm? That's a collection of fission products, tossing all sorts of junk around."

After a moment she said, "Some men wait for death complacently; some spend their remaining time roistering; and Dave Crandall spends his time doing dangerous jobs for humanity. Now tell me that you're not an idealist, Dave."

"I—"

"Oh, stop arguing," she said. She still held the hand that had pressed hers over his side. Now Jane caught it in a hard grip and pulled, rolling him towards her. She met him halfway, missed his lips on the first try, and then made contact as her free arm went around his shoulders.

Dave's was a startled response at first.

"Who's arguing?" he asked after a moment. He added his free arm to the embrace and held her to him.

The stars above them whirled a quarter way across the sky—unnoticed.

CHAPTER THREE

The Other World

C RANDALL awoke to the faint sounds of farm life and spent a few sleepy moments wondering where he was. The low of a cow, the creak of a windmill, and the bustle of activity in another part of the house; the sigh of a free wind and the whisper of leaves—none of these were indigenous to his normal habitat and it annoyed him until the sleep left him and he recalled.

Days of hard work and too little sleep, the relaxation of the farm for an evening. Jane. Jane!

Crandall swore mildly. He became introspective and carefully analyzed his feelings, even though he knew that he was hopelessly incapable of coming to an honest solution about himself. His glands and his intellect were at wide variance. He had no right to ask for nor could he offer love.

Dave growled at himself and climbed out of bed. A cool shower helped; he was glad that the Nolan farm was not of the older variety. Here at least was farm life with almost every comfort of urban living. He dressed and then went down the stairs slowly.

"Sleepyhead," Jane called as she saw him. "It's nearly nine o'clock."

"Middle of the night," he said.

"Dad and Mom have been up for hours."

"And you?"

"Positively minutes." Jane came to him, face upraised. He kissed her and momentarily forgot his troubles.

But it all ended too soon. Breakfast was leisurely, and then they were off, back to Merion.

They arrived at the laboratory in an hour, and then the bustle of activity herded Dave's introspective feelings out of his mind.

He discovered that the night of relaxation had sharpened his mind. He ran through the program once more in the remote lab, and then they announced that he was ready to try the real thing.

Dave went to the jeep. Jane followed.

"Dave—be careful."

"As possible," he agreed. He kissed her and then started off towards the remote lab that still held the crystal clamped in the electrodes.

They wanted physicists, huh? He'd show them, whoever they were. He'd fox them. The trick was completely incomprehensible, but however they did it, it was as neat a program of treachery as had been invented in all history. In an earlier day the enemy went for the leaders, the generals and the admirals and the kings and emperors. Now it was the engineers and physicists, for it was science that carried victory. The most brilliant military strategist was a mere cork bobbing on the rim of a whirlpool if he were not equipped with the latest and best that could come from applied physics.

But Dave was not a physicist. He was just a scribbler of articles, an occasional writer of fiction. So Dave was not the man they wanted. Let them sit and chew their fingernails while he, a zero quantity as far as they were concerned, toyed with the crystal. It wouldn't be practical to waste the crystal on him, any more than it was practical to hurl a can of SPAM* at a convoy escort.

*For Self Propelled Atomic Missile: a humorous contraction used in a novel, "Murder of the U.S.A.," by Will F. Jenkins, shortly after World War II. When self-propelled guided missiles came into being, General Lansdowne conferred Jenkins' appellation upon them and the name has remained.—G.O.S.

Dave arrived at the remote lab and went to work. They checked him through the video and the sound channel both ways, and then Dave turned toward the crystal.

"The power," he said, "is being built up, as you can hear in the background, the generators are groaning a bit under the initial heavy load. The—ah—gaussmeter is rising up the scale. It occurs to me that the boys on the other side of this might well be chewing their fingernails at the moment. If I've got this thing figured right, *they* can see into this lab and know me and who I am—and possibly what I am doing. Maybe they've even figured out the why of it.

"Now, the next item is something I've been keeping quiet about. I doubt that *they* can read minds, but I'm pretty sure they can hear us and watch us. So I've kept quiet until now.

"As Dr. Thomas Meteridge can tell you, I've been given about six months to live. So I have nothing to lose, especially if I can prove a point. I've claimed stoutly that *they* aren't interested in anything but physicists, and that a tyro would be safe out here. But it's still possible that I was wrong.

"As you'll note, I've already got farther than either Claverly or Phelps. I think that if I kept my mouth shut now, I'd be allowed to finish the job. But—I think I have a clue to the identity of the enemy, and the method they're using to destroy our top scientific talent!"

He paused. "Of course, I could be bluffing. But I don't think *they* can afford to take that chance. So, in a minute, when I start to tell you what I think I know, they'll have to decide. . . ."

"Dave," cried Jane, "what chance have you got?"

"A fair chance," he said. "We've got them spread nicely across the horns of a dilemma. If *they* do grab me, it will prove that there's an enemy alien at work. If

they don't grab me, I'll solve their secret—"

The crystal flashed pearly-white. Again it paralyzed the orthicon and crackled in the loudspeaker. It blinded Dave momentarily, but he shouted, "I'm still here!"

He heard a cry from the far end of the sound system. It faded rapidly.

AS HIS eyesight returned, Dave looked around curiously. The laboratory was still around him, but it had the same semi-ghostly appearance that Claverly and Phelps had had. Of the images of the two physicists Dave could see nothing. They had been there, faintly visible, when he had gone in. Now they were gone. Dave looked at the workbench. He passed a hand through it. He stamped on the floor and found that he was stamping *through* the floor; he was actually standing on a semi-smooth surface a few inches below it.

"Damn!" he swore. He looked around. The concrete walls of the building were heavy and thick; he could not see clearly through them. He walked forward, hands outstretched, and saw his hands enter the wall. He walked through the wall, and felt a slight resistance, as though he were walking through water. He burst through the far side and the released pressure pitched him headlong.

Once outside, Dave looked around. In the ghostly distance he could see the main laboratory building and the jeep bearing Jane, DeLieb, and Howes. They came to the building and Dave ran to meet them.

"I'm here," he called. He screamed it. He yelled at the top of his voice. Jane walked through him. Her face was broken, tears filled her eyes, and Dave tried desperately to get her attention. But she walked through him and went on. They went in the door; Dave walked back through the phantom wall and met them inside.

"Dave!" cried Janë. She ran across the room and reached—then recoiled, her face twisted in horror.

"Like Claverly, like Phelps," she whispered.

"Like hell!" yelled Dave. "Dammitall, I'm here!"

"Gone!" said Jane.

"I'm not gone!" snapped Dave. But a still voice inside him said that he was. He looked carefully at the place Jane watched with horror-filled eyes. He could see nothing. Then he went to Jane and peered into her eyes. The pupils were clear. Dave snorted. If he could not see the image of himself that Jane saw, there was no reason why he could see a possible reflection of that image in her pupils.

"So he proved it," said DeLieb.

"And so we continue, knowing that something or someone is maliciously attacking us," said Howes.

"It's mine," said Jane in a flat voice.

"No—" said DeLieb.

"I want to follow him," she said.

"Don't be a fool!" yelled Dave.

He ran to the crystal and slapped at it. It hurt. With a glad cry, Dave pried at it with his fingers. The clamping electrodes held it firm—and he could not touch them, for they were as thin and tenuous as the concrete wall through which he had walked. Only the crystal was solid both *there and here*.

Dave smiled sourly. If he was dead, then this was a fine psychological hell. Here he was watching friends and a loved one marching into deadly danger, listening to their grief and their dangerous plans, while he was completely helpless to guide them.

He felt the crystal move slightly under his straining fingers. Wrapping a handkerchief about his fist, Dave punched at the crystal. It gave—or on the other side, the clamping electrodes gave. At any rate, it was loose.

He hit it again and jarred it.

"The crystal!" cried Jane. "It's moving!"

"Blow-up!" yelled DeLieb.

But this time there was no panic. Howes cut the energizing power with a flick of his hands across the toggle switches. DeLieb clamped down on the electrodes with a hand and spun the wing-nuts that held it with the other. Jane Nolan grabbed at the crystal as it came free and turned to the pneumatic delivery tube.

But Dave reached out a hand and snatched it from her.

Jane cried in pain and fear, and watched the crystal make three long swoops towards the concrete wall—Dave had grabbed it and started to run outside. The crystal was wrenched from his fingers as he went through the wall. It fell to the floor, and all three physicists swooped down upon it.

Jane came up with it and popped it into the pneumatic tube.

It rattled thrice and was gone, racing down the tube end over end, visible to Dave as it raced out of reach.

"It wants physicists," breathed DeLieb.

"But it's gone now."

"And so is Dave," cried Jane.

"Dammit," snapped Dave. Then he gave up, because he knew the utter futility of trying to make them hear him.

But there was a way!

The crystal extended through both worlds. All Dave had to do was to get the crystal and use it as a stylus against some surface in the other world.

He turned to follow the pneumatic tube towards the place where the crystal had gone. He was not more than a hundred yards down the length of the tube when the sky blinded him from a couple of miles away, and then the air roared, and then when vision returned he could see a pillar of white smoke billowing skyward. They had destroyed the crystal!

DAVE stopped to think. Clearly, the exploding crystal was as dangerous on this side as it was on the other. That meant that no one could stand close by and watch the thing to be sure of which physicists they got—unless they used some sort of television hookup.

So Dave retraced his steps to the laboratory and inspected it. He saw nothing, and so began to feel his way through the walls of the building. He became engrossed in this job; it was both interesting and a bit terrifying to go walking through walls and feeling along the insides of beams and rafters. The building was a sort of thick phantom. Not only were the walls transparent, but the pipe lines, electrical wiring, nails, and other normally hidden bits of construction were visible within them. And walking along the length of a wall with a shoulder on either side, one in one room and one in the other, was disconcerting as well as amusing.

The heavy concrete-block walls, set up for radiation barriers, were wider than Crandall's shoulder-spread, and he could walk through their length completely enclosed in the hard concrete. Here it was eerie, too, for encased in the concrete were electrical wires and pipes, to Dave no heavier than the concrete through which he walked, but none the less clearly visible.

So Dave inspected the remote lab, walking down the walls and through the pipes and wires that stretched through the house like a spider's web, and he saw no evidence of espionage—

—until he caught his throat under a wire that should have been as tenuous as the others, but which almost throttled him.

Dave bounded back, clutching at his throat and swearing soundly.

Then he realized!

And forgetting his throat, Dave followed the wire to one of the remote video

and audio sets. He pulled it aside—and it split into two complete sets! There were two television cameras, identical in every way, one in Dave's world, one in the everyday world, placed in perfect register!

His proof!

His friends had gone; obviously back to their laboratory to prepare another crystal. Here he could get one: their next one. Then he could communicate with them and start planning a counter-offensive.

Dave looked across the plain towards the main laboratory building, and shrugged. If he had a crystal now, all he could do would be to let them know he was alive and on the job, but had no information. On the other hand, he had fouled up the television camera in the remote lab, and it seemed likely that there would be a repairman coming along to see what was wrong.

Just where Claverly and Phelps were in this mess Dave didn't know. But he assumed that soon after their projection into this cockeyed half-world, the enemy had come along to collect them both.

Dave blinked at a sudden fantastic thought: would the flashing of a crystal send him back to his own world, or toss him along into another one?

An interesting thought—to be pursued later. Right this moment the thing to do was to lie doggo until the enemy arrived to take Dave in tow. This time, instead of a baffled scientist, they were attempting to catch a gent who was more interested in being alive than in figuring out where he was.

Had Dave been a pure scientist, he would have been amazed and baffled by this half-world. The whys and wherefores would have bothered him to the exclusion of other considerations, and he would have been standing there trying to figure it all out when the enemy came along to collect him. Instead, Dave was

still alive, or felt that he was, and that was enough for him. Someone else could figure out how and why; his was the line of action; so long as he was able, he was going to continue to live and fight.

So when the helicopter dropped down out of the sky near the remote laboratory and disgorged a man carrying a rifle, Dave, the quarry, was sprawled behind a slight ridge in the half-world's terrain, watching through a cleft in the stone outcrop.

CHAPTER FOUR

The Struggle for Earth

THE MAN with the rifle prowled around the ship, looking carefully out across the plains.

Then, angrily, he turned and said something at the door of the helicopter, and a second head appeared. There was a short discussion that Dave could not hear, and then the second man came out carrying a tool kit and headed for the lab. The first man got back into the helicopter and took off towards the main building.

Dave nodded. It was reasonable to suppose that Claverly, and then Phelps, after finding themselves in this half-world alone, had gone back to the main laboratory to see if they could raise the attention of their friends. Dave himself could have been expected to follow, running after the jeep that had taken the others back to their lab. The hunter expected to find Dave wandering disconsolately around the other lab.

When the helicopter had disappeared, Dave arose and scuttled across the plain towards the building he had left. He felt like a battleship on a clear ocean in broad daylight trying to slink unseen behind an enemy, but there seemed no way to avoid it. At any rate, the workman was paying no attention to his surroundings.

Within the walls of the laboratory, the workman was unlimbering his tool kit.

He was an efficient workman. It was his job to repair the television camera and it was his cohort's job to track down and dispose of Dave.

He went to work on this basis and ignored the possibility that Dave might be stalking him—until Dave came silently up behind him and kicked the small sectional ladder out from beneath the workman's feet. Dave's fist came plunging through the windmill of flying arms and legs and connected solidly beneath the workman's ear. Startled, off-balance, and then slugged, the workman came to earth with a dull thud and sprawled motionless. Dave snarled and made doubly sure with a thrusting heel-kick against the workman's jaw and throat. The workman was not the first man to die from such a kick.

Then, in a matter of minutes, Dave was wearing the dead workman's shirt and trousers and was plying the tools on the television camera deftly. Dave had not wrecked the thing, he had just swung his weight against its moorings and displaced it. The problem was simple, and was handled by a couple of adjustable end-wrenches. It could have been done by sheer strength, but not with the desired precision. So Dave loosened the nuts that held the flexible couplings and slid the camera back into its original perfect registry with the camera in the real world. He was tightening the nuts again when he heard the helicopter returning.

Dave stooped and packed the tools back in the kit, folded the collapsible ladder and stowed it atop the tools, and then stood up and waved at the pilot.

The helicopter landed. The pilot got out and called, "Have you seen him?"

This was in a foreign tongue that Dave understood, and could speak acceptably.

"He jumped me," called Dave; pointing with his toe at the inert figure on the floor beside him.

The pilot looked and scowled. "Dead?"

"No!" grunted Dave, turning his back on the pilot, who was approaching. He scooped up the tool kit with his left hand and walked rapidly to get out of range of whatever loudspeaker system the enemy had in the laboratory. He strode thirty feet towards the pilot, who also came towards Dave about the same distance. Then—

"You're not—"

"Up!" snapped Dave, dropping the tool kit and pulling the captured revolver out of its holster.

The pilot snarled and made a side-swinging fadeaway motion, bringing the rifle up from its under-arm position. The pilot fired and the slug snapped past Dave's head. Dave fired and winged the pilot in the right shoulder, spinning the man around and dropping him to the ground.

Then Dave raced forward, made a long leap, and landed, kicking the rifle away with one heel and planting the toe of the other foot cruelly in the armpit of the wounded shoulder.

Pain crazed the pilot and he writhed on the ground, half-conscious. When he came to, Dave had his knees and ankles trussed with friction tape and was winding his free arm against his body with more tape.

The pilot mouthed some unprintables.

"Shut up!" snapped Dave.

"Bah!"

Dave backhanded the pilot across the face. The face writhed in pain and the eyes half-closed again. Dave tore the sleeve from the shirt and bound the bullet wound crudely.

"Now," he said harshly, "you'll live if you behave. It ain't painless, but you'll live—if you want to."

"You can't get away with this."

"No?"

"We'll get you sooner or later—"

"Think you'll live to see it?"

"Yes."

"You're wrong again, chum."

"Bah! We know your kind, all of you. Self-centered and egotistical, not one of you would care to die for his fellow man. We—"

Dave snorted scornfully. "During the last time we got in a scrap to prove that we're not as sloppy as you think, I took on a load of fission products. I don't care much care whether you kill me quick right now or whether you let me die six months from now. I'm a dead man anyway. But in the meantime, little pawn of the super-state, I might be able to foul you up because I have nothing to be afraid of—but failure!" Dave let that sink in, although he doubted whether it made much impression. Then he demanded, "What do you know about this?"

"Nothing."

Dave joggled the wounded arm. "Are you certain?"

*Wolf Shows
He is
Smart as a Fox*



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"You can't torture it out of me," said the pilot between gritted teeth.

"Maybe I can scare it out of you," said Dave. He stood up and lifted the pilot by hooking his left hand under the windings of tape. He dragged the man along the ground to the helicopter and slung him into the passenger's seat. Then Dave went around and climbed into the pilot seat and wound up the motor. He snapped off the radio and inspected the dashboard carefully to be sure that all radiating equipment was dead; he did not wish to be followed by any direction-finding equipment.

Then he drove the helicopter for two solid hours north until he came to a piney forest. He dropped the ship slantwise through the forest for a mile and came to earth in a little glade. The wheels of the 'copter rested on the half-world surface a few inches below the apparent ground.

"**N**OW, my friend, I'm going to show you a few things that may prove to you that we're not as stupid as you think. For one thing, I, an unarmed man in a strange world, have succeeded in killing one of your buddies, wounding you, and making off with your helicopter. I've succeeded in escaping to a place where it may be difficult—if possible at all—to find us. Third, I've established the fact that you are not carrying any means of communicating to the real world on this 'copter."

"Oh, brilliant," said the pilot.

"It was," nodded Dave. "You see, we're a bunch of mechanical geniuses, which you've always admitted. So I postulate some sort of mechanical linkage through these devil's crystals of yours. A pencil, perhaps, with the barrel in one world and the magazine in the other world, coupled between them with a bushing made of a crystal. Maybe a radio set with bushings in the dials, and a crystal between the this-world dia-

phragm and the real-world electrical element. But if we were carrying anything of that nature I'd have felt resistance as we passed down through this forest. So—?"

"Why don't you kill me and forget it all?" asked the pilot.

"I am compassionate, sympathetic. A lover of mine enemy. When smitten upon one cheek, I turn the other cheek for a second wallop. Since you've had only one wallop, I'm keeping you alive so you can get that busted wing back in shape for the second smiting. But you see," added Dave as he saw a wave of pain pass over the pilot, "the book doesn't fill in the gap between the smiting of the first cheek and the offering of the second. Elsewhere in the same book—and a long way in front of that—you find references to the taking of an eye for an eye and a tooth for a tooth. You and your gang of hotshots have been responsible for the deaths of a lot of fine men, killed with no warning.

"So," finished Dave, hard-voiced, "maybe you'd like to learn what goes on when a mild-mannered gent like myself gets mad?"

Dave reached across the pilot's body, grasped the wounded arm and joggled it sharply. The pilot cried out in pain and beads of sweat popped out on his face.

"Talk, damn you!" Dave twisted the arm again.

"Where are you running this game from?"

No answer—and another twist of the arm.

"How do you blow up the crystals?"

The pilot's eyes closed and he breathed heavily.

"Possum!" said Dave, slapping the pilot across the face. There was no response, so he fumbled under the seat and found a water flask. He threw a small handful into the pilot's face. "There isn't much of this here," he said, "and I

doubt that there's any water we can drink on this half-world. Wounded men get thirsty, don't they, chum?"

The pilot opened his eyes and groaned, "Water—"

"Talk!"

"I don't know anything."

"Then you're no good to me alive!" snapped Dave.

The pilot sat up a bit. Dave twisted the arm again. "Don't!" pleaded the pilot.

"Then talk!" snapped Dave again. "You got into this world the same as I did, but by choice. How do we get out again?"

"There's—no way out."

"Baloney."

The pilot screamed in pain. "No—I swear it!"

"How does the Manhattan Crystal furnish power for New York?"

"I don't know."

"It's transmission of power, isn't it?" demanded Dave, jerking the wounded arm again.

"I—"

"Good. That's what I thought. Transmission from one crystal to another. They blow them up the same way?"

The pilot nodded, weakly.

"So *we* don't manufacture the crystals in the nuclear laboratories. You and your gang deliver them like Santa Claus, coming down the chimney!"

The pilot nodded again.

"Now—where is this thing run from?"

The pilot shook his head. Dave snapped the arm sharply and the pilot screamed. He screamed a name.

"There's no way back?"

"No," groaned the pilot.

Dave let him go. "No way of communicating with the real world from here?"

"No."

"Do you know where we are?"

"Interstitial time."

"What?" roared Dave angrily.

The pilot winced. "I'm told," he gasped, "that time moves in quanta, like energy. We're—between two quanta of time."

DAVE frowned thoughtfully. The expression, "out of phase" came to mind, and he decided that the half-world was displaced, out of phase in time, moving behind one peak of the "real world" and before the next. He remembered seeing a series of synchronizing pulses depicted on an oscilloscope; a series of rectangular waves, square-sided and flat-topped, rising from the baseline sharply. Like the cross-section of a row of piano keys, the separation between pulses very narrow compared to the width of the flat top. This half-world, he supposed, moved along in the separation.

"Where is Claverly—and Phelps?"

"I don't know. Another crew captured them and took them back."

"I think that's about enough," said Dave. "I think we can take it from here."

"And what are you going to do with me?"

Dave grinned. "We'll make a sporting proposition out of this, superman. You'll be the bait for a trap. If the trap springs on me, you'll win. If the trap springs on you, well, that's just too damned bad!"

"You can't trap us!"

"No? You told me I couldn't get anything out of you, either. So just watch!"

Dave lifted the 'copter once more and drove, at headlong pace, back to Merion. He hovered thirty feet above the pseudo-ground, less than half a mile from the main building, and then cut the engine and let the helicopter drop. For good measure, he tilted it sideways. The ship landed with a jarring crash that crumpled the landing gear and folded one of the rotor blades down. The hull crumpled in on one side, and a litter of broken glass and some splinters of metal spread out across the earth. Dave completed the

picture by kicking out the fore window and strewing the ground around the ship with the gear from the various tool boxes and compartments.

He found a first-aid kit. He charged a hypo needle with a healthy slug of sedative and placed it handy.

Then he sat back and waited.

An hour passed; two, three, and darkness began to fall. Dave switched on the landing lights of the 'copter, and then with a vicious smile he kicked one of them loose so that its beam cut the ground askew, illuminating the litter on the ground.

Two hours after dark he was rewarded by the distant sound of another helicopter. Dave went to work vigorously. He clipped the pilot across the jaw, dazing him. He shoved the needle home and discharged the sedative into the pilot's body. Then he cut the tape and shoved the feebly-struggling body half out through the fore window, being callously rough so that the pilot's face and shoulders were slightly cut by the broken glass.

The pilot, roused a bit by the pain, waved at the oncoming helicopter, trying to warn it off. Instead, the other pilot dropped rapidly towards the wreck.

It landed a hundred feet away and two men dropped to the ground and came running.

"What happened?" cried the foremost.

"Wreck," groaned Crandall, inside the ship.

He took careful aim with the pilot's rifle and fired, twice. Both men dropped in their tracks.

Leaping over them, Dave went to their helicopter and climbed in. He snapped the radio switch and said, "We're back, reporting."

"What happened, M-22?" the speaker answered tinnily, and Dave cheered himself for guessing correctly that the other pilot or observer had reported before investigating.

"Complete wreck," he said shortly.

"The men?"

"Dead."

"You're certain, M-22?"

"I am."

"What was the waving, then?"

"Piece of canvas. I thought it was one of them. The light, you know."

"Ah, yes. Over there it is dark. All right, proceed as directed and return to this wreck once the crystal is placed!"

"Check. M-22 signing off."

Dave snapped off the radio and rummaged about in the helicopter. He found the crystal, packed neatly in an aluminum box in the compartment below the dash.

Now to find something to write upon. Nothing he had available would suffice. And if he took the crystal into the laboratory to write upon a wall, the video cameras would see him and the enemy would blow the crystal up, and himself with it. There was—

Jane!

Dave grinned happily. He lifted the 'copter and drove it madly across the plain, following the ghostly road he recalled so well, until he came to the farmhouse of the Nolan family. Shamelessly, Dave lifted the 'copter around the farmhouse, peering into the windows until he located Jane's bedroom. He took the crystal from its packing and forced it through the window screen. Then he took the whole helicopter in through the house until he was sitting beside her bed. He tapped her shoulder with the crystal until she awoke.

"Uh—what?" she gasped, rubbing the sleep from her eyes.

She snapped on the light and sat up in bed.

She saw the crystal, apparently floating before her eyes, and she jumped with fright. Then Dave took the 'copter close to the wall. He scratched in the plaster:

Jane. This is Dave!

"Dave!" she breathed.

Yes! It was hard on the plaster, but necessary.

"You can hear me?"

Dave pointed to the "Yes" with the crystal.

"You can see me?"

Again came the point. And Jane hurriedly wrapped herself in the sheet and blushed. Then she threw away the sheet and said, "It seems that this is no time for modesty, Dave."

He tapped the printed "Yes" once again as Jane reached for her dressing gown and slipped into it.

"What do you want?" she asked.

Carbon paper, he wrote on the wall.

Jane disappeared, and Dave smiled at the scribbling on the wall. Its disjointed message was bearing fruit. But what could one make out of:

Jane. This is Dave!

Yes!

Carbon paper.

Nothing but the safety of America!

INSTEAD of carbon paper, Jane brought a "Magic Slate", one of those wax-based tablets covered with a celluloid sheet that can be written on with a stylus and then erased by lifting the celluloid. It was better than carbon paper, and Dave cheered to himself at her brain-work.

"What is that?" she asked.

This crystal is the one the enemy was

bringing to Merion Laboratory to replace the one they blew up in the safety-dump yesterday, he wrote.

"Where are you?"

I am in some sort of interspace between time quanta. Your guess is better than mine.

"Who is the enemy?"

Dave wrote it out, and then added the rest of the details.

"What shall I do?"

Stop them—somehow.

"How can I stop them?" wailed Jane.

Call President Morgan. You can do that, he wrote. Let the President put a stop to it!

Jane nodded and went to the telephone. Dave followed. I'm putting this crystal in Merion, he said. I've been away too long—they will be getting suspicious.

"Dave," cried Jane, helplessly looking for him. It was hard on Dave, for he knew what she wanted and was unable to stand where her eyes were trying to focus. He gave up and watched her eyes look aside and through him, unable to help her see him as he could see her. "Dave," she cried plaintively, "come back to me!"

When I can, he promised.

Jane waved the pad. "I have that in writing," she said. Her face showed it to be a hard try at humor.

Dave tapped her gently on the forehead with the crystal, and then it took

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off in a long swoop towards the window as he left. He did not know, but he assumed that a certain amount of time must be permitted the placers of those crystals since the operator could not open a door, nor must he permit the crystal to be seen floating through a busy corridor. How much of this grace period he had left he did not know, but he wanted the crystal placed under the eye of the television cameras of the enemy before they became suspicious.

The crystal was a deadly thing under any circumstances, but now it was like a gallon tin of nitroglycerine; Jane, knowing the facts, would keep people out of its sphere of death.

Meanwhile, as Dave drove the helicopter towards Merion, the avalanche of action that he had initiated was rolling higher and higher.

A common, garden-variety citizen, of no especial degree of public acclaim is normally supposed to be able to shake the President by the hand and/or complain about the weather or the administration, or taxes, or anything. It has never been determined just what might happen if Peter Doakes, of South Burlap, Idaho, became possessed of vital information that must be handed to the President within the hour. Without a doubt the country would be blown sky-high by the time Mr. Doakes succeeded in proving to ninety-odd undersecretaries that he had something truly important and was not a crank or a crackpot. But Dr. Jane Nolan of Merion Atomic Laboratory had both a name and a reputation, and when she placed her call to the White House, it took her exactly twelve minutes to convince the powers that be that she had something vital to discuss with President Morgan. Four minutes later, the President had been awakened and was on the telephone. It took another fifteen minutes for Jane to tell her story.

Then the President heled a pompous

little man out of bed and made him stand at the telephone while the President of the United States gave the Foreign Ambassador a bit of the Official What-For, and began explaining that it was not necessary for Congress to convene in order for the United States to rise and defend herself against a sneak attack from a Foreign Power, and that under the Circumstances, the President was going to present the Foreign Power with a fine collection of American Military Secrets, and that the first of these Gifts would be presented within the hour unless the Foreign Power surrendered first.

The President had a few other suggestions regarding the Return, unharmed, of a couple of American Scientists, and the well-being of a certain American Newspaperman, and some other items of mutual interest, and Furthermore, Mister Ambassador—

DAVE CRANDALL flew his helicopter towards Merion, wondering how things were going. His job was done. He, too, was finished. There was no return. Not that Dave felt any great urge to return; doubtless there was something he could find to do in this half-world that would let him go on working. He would have to contact them and have them ship him groceries, cigarettes, and water. But there were many things that a man could do here.

He thought about Jane, and his heart softened for a moment. This was just as well, however. She would forget him, while he had no future worth thinking about. Only hard work, partly because he liked activity, partly because it kept him from brooding about the date of his certain death.

A wonderful woman, Jane Nolan; one not to be hurt by fate's little tricks. But so long as he was here, she—

The crystal he had in his pocket flashed brilliantly, penetrating the cloth and

lighting up the cabin of the helicopter. At once, Dave felt the hard matter of the seat grow tenuous, and there was a bare instant of sliding resistance, like the feeling of plunging a foot into the shifting sand of a beach. Then the helicopter disappeared and Dave felt himself falling.

"Damned unmitigated liar!" growled Dave. Then he crashed into a tree and lost consciousness.

Dave meant the pilot who swore that there was no return to the real world.

He opened his eyes and groaned. He tried to move and found that he could not. He might as well be covered up to the eyebrows in concrete.

He looked around and saw a crowd of people watching him.

"Welcome home."

"But—?"

"I owe you an apology." Dave looked and saw President Morgan.

"Apology?"

"I got too tough with them. They flashed you back while you were flying the helicopter. You're banged up a little."

"Nothing that can't be repaired," said Doctor Meteridge cheerfully. "A beauti-

ful case. Fractures of the tibia, fibula, radius and ulna on one side, humerus and clavicle on the other. Bruises and a couple of abrasions. Nothing serious."

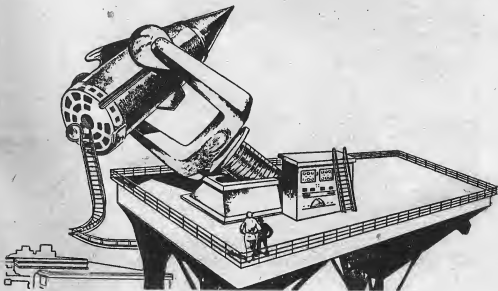
"David," said President Morgan, "a grateful people is waiting for your convalescence so that we can show you our appreciation."

"Yes," said Jane. "Get well. We all have plans for you!"

Dave tried to shake his head. "No, Jane. Doc'll tell you. Six months—"

"You can't escape me that easily," said Jane. "While you're all neatly immobilized in that plaster cast, we are using their machine to separate out the widespread specks of fission products that were killing you. Just a matter of tuning critically so that it will send certain isotopes into the half-world instead of the whole human being. So by the time you get off your back, we'll have you healthy again and then, Dave Crandall, just you think up another excuse!"

"Pick on a guy when he's down," grumbled Dave. He was laughing, then, but the room blurred through the tears in his eyes.





A giant gets you by the ankle and throws you toward the roof. . .

*Lonely, bewildered, lost in the maelstrom of the ages, he
roamed—to be cruelly shared by worlds other than his
own—and yet—*

BY THE STARS FORGOT

By JOHN D. MacDONALD

S PUN.
Say it soft. Aspirant, vowel that is almost negative, the N with the tongue held down from the back of the throat.

SPUN!

Now do it this way. Start it as low as you can pitch your voice, and slow. Slow. Gas is a reminder of anaesthesia. Two words. SPUN! GAS! Equal weight, equal emphasis. Ready now. Spun—gas—spun—gas—spun—gas. Bring it up slowly, slowly, higher, higher, louder, louder. Slide it toward the falsetto, one half note at a time.

spun — gas — Spun — Gas — Spun —
Gas — Spun — Gas — SPUN — GAS —
SPUN—GAS.

Are you losing anything to try it?

Are you alone?

You are coming out of blackness. How long has it lasted? Is this the tonsils? Uh-uh! Long time ago—tonsils. Eight, weren't you?

How stupid! This is the automobile accident!

Wait!

Can't be that.

Over a hell-and-gone long time ago. That was when Marty was killed. Best tram since the tail-gate days of the N'Or-

leans street parades. You got through that okay. Later than that. Later. After you started making the big dough. Think! Just like they say on the wall at IBM. Think!

How was it? You're coming out of it. Coming out of ether. Out from under the knife.

What happened? Take an A. Godfrey approach. What happen?

Wait! Grand Central. Of course! Boo was coming in on the Empire. It was all set for the K Club. You were standing by the information counter, you fool, you. Part of the routine. You fool, you. The train was late.

Blackness. Blacker than the inside of an agent's heart. Steve might be able to use that in the column. Save it. Black. What makes black? Could the roof of Grand Central fall down? Poor building codes, maybe.

Now it's set, and still this dizzy spun-gas-spun-gas routine is going on.

It comes out of the back of the throat. Scream with the throat half closed. You've got it! A giant gets you by the ankle and throws you toward the roof. As you whirl up the roof breaks open as the sun drops through. You're being hurled into the middle of the sun. . . .

Silence.

Silence.

Whatever it is, you're out of it. Alive. Cogent. Perceptive.

The hands can move. The flesh crawls with a thin finger of breeze from some unknown place. The light above you is odd. A soft globe resting on nothing, suspended from nothing. Just...there.

Did Boo come in on the Empire? Ten thousand years ago? Why did you think that? Ten thousand years!

He sat up. The bed under him felt like taut skin stretched over yielding flesh. He worked his fingers and his wrists and hunched his shoulders. He felt...rusty. He felt as though he could hear the grate and grind of bone in sockets.

"Hey!" he said. His own voice echoed around and around inside his skull.

Identity was important. "Look!" he said to the walls. "I am Harry Harris. Look, I got a six-piece Dixieland combo. I play what they call a gutty horn. Yesterday we cut the *Rampart Street March*. Boo was coming in on the Empire. Hey!"

There was a funny pain in the back of his neck. Sharp. He couldn't turn his head without increasing it. He was propped up, holding himself in a sitting position, one hand against the bed. He took the hand away and the pain stopped. He grabbed a rope of hair as big around as a ball bat. It was fastened to his head. It spilled off the edge of the bed onto the floor. He fingered his face. The beard was silky-long, spilling off down his chest, across his thigh, off the edge of the bed.

"Okay!" he said. "I can go along with a gag. Who's the funny man? Barney? Red? Scanse?"

Silence.

"What has happened to me?" he screamed.

They came in. Two of them. Quick and busy. Hands pushed him back down onto the bed. "Doc," he said. "Doc, what happened?"

"Please!" Impatient. A funny accent.

A hand held a bulb with a nozzle. The spray had a tart smell. He shut his eyes against it. Then there was an odd slippery roughness against his face and head. A tingling nakedness. He opened his eyes and touched his chin. The beard was gone.

He touched his head. The hair was gone.

"Look!" he said. "Twenny dollars a crack for them treatments to keep my hair! Whassamatta with you guys? I'll sue you to hell and gone!"

"Please!"

He stared at them. Both bald. Young faces. The one on his left had a little vibrating thing in his left hand, the spray thing in his right hand, and with his other two hands he was...

Harry arched his back and yelled again and again and again.

"Please! Please!"

They took him off the bed and his legs and feet didn't work very well. They took him out and folded his right hand around a rubbery cable. The cable was moving slowly down the center of a corridor. Once he had hold of it he couldn't let go. He could stand still and then it would slowly pull him off balance and he had to take a step. The two men were gone. He tried sitting down. It dragged him along. He stood up again. Way ahead of him somebody else held onto the cable. Somebody or something. It screamed too, from time to time, but as though its heart wasn't in it. Harry looked around. Back in the gloom, equally spaced, was another one.

The cable pulled him through an arched doorway. On either side of him was a long narrow desk.

"Good morning," a revoltingly cheery voice said.

"Get me offa this rope, hey."

They clamped metal loops around his arm, put a sucking, buzzing thing that felt like a big hungry bug on the back of his neck. He writhed. The loops prevented

him from reaching it. A girl sat at a machine like an oversized adding machine. He stared at her hand. It was a foot and a half wide. The fingers tromped up and down the keys like the legs on ten guys finishing a race in a dead heat.

Harry's stomach revolved slowly. The rope yanked him along another step. They detached the gadgets. The girl read the dials. A tag slid out of the side of the machine. It was grabbed and stapled to his bare shoulder. The staples didn't hurt. With his hand freed he tried to pull the tag off. That did hurt. He left it there. He could read it. It was in a funny shorthand. English. On the top it said "Stores—Inv. 1950. Skill indx—fing & lp dextrs. Recom disp—Parts."

The rubber cable continued to drag him along. There was another arched doorway. The cable disappeared into a hole in the wall. Suddenly his hand was free. He moved sideways away from the cable and glared at it.

"Right in here," a voice said. One of the smooth-faced baldies sat behind a desk that had the curious and revolting look of a piece of raw meat, chopped square.

HARRY stepped into the small room. He glared. "I want my clothes and I want some fast answers, bub!"

"Irritation expected. Answers provided. Ask."

"I was in Grand Central Terminal waiting to meet somebody. What happened?"

"Agent commissioned find good physical types intercepted, anaesthetized, led you to crypt."

"What agent?"

"Bureau Enlistments. Time Span Section. You earmarked for us."

"Who is us?"

"Bureau Surgical Engineering."

"Where's the girl I was going to meet?"

"Dead. Dead two thousand years."

Basic resilience fought against horror. Harry rocked on his feet, brought himself back under control. "You know, guy, I believe you. I don't know why, but I do. What are you going to do with me?"

"Spare parts. Brain useless. Lips and fingers good. They go special storage. Legs go general storage. Remainder goes chemical recovery."

Harry's mouth worked a few times. He brought the words out. "You zanies are going to kill me?"

"Emotional response. No. Use you. Painless, utterly."

Harry, out of a lifetime's experience in dealing with booking agents and night club managers, began talking. "Look, it's the brain controls the fingers and the lips. By themselves they aren't any good."

"Fallacy. Muscles have memory independent of nerve impulse. Proven."

Harry worked his right hand in the

Service Manager Does Himself Service

**James M. Davis* switched to Calvert
—found today's best blend is also
today's very best buy!**

*of Boise, Idaho

**CALVERT RESERVE BLENDED WHISKEY—86.8 PROOF—65% GRAIN
NEUTRAL SPIRITS. CALVERT DISTILLERS CORP., NEW YORK CITY**



movements of fingering the valves on a trumpet. "I don't get it, friend."

The man said, "Look."

He reached out a surplus hand that Harry hadn't noticed. Harry swallowed hard. The hand pressed a key pattern on the edge of the meat-colored desk. The wall behind the man came to life. Harry had seen pictures of the Indian goddess, Vishna or something, the one with all the arms. The thing was probably a woman. She sat behind an enormous U-shaped instrument board. Six arms flickered across the board, pulling plugs, depressing switches, replacing plugs.

"Surgical engineering coordinates with industrial engineering for peak efficiency. Engineered woman handles work of four normals in smaller space. Space important."

"Now wait."

The voice went on. Clipped, imperturbable. "Earth mechanistic center. Since establishment surgical engineering efficiency doubled. Earth supplies small electrical, mechanical devices all planets. Too small mechanize assembly."

"You'd fasten my arms on one of those . . . those . . ."

"Natch."

Two thousand years before, Harry Harris was known to the trade as a man who could land on his feet.

He said, with an air of confidence, "What you guys need is somebody to interview the sleepers you've got in those crypts you told me about and find out what they can do good."

"No need. Mechanical analysis faster, better."

Harry absently reached for nonexistent cigarettes in an absent pocket.

"Now time detach parts."

"Not so fast, friend. I've got an ability your fancy machine didn't find out about."

"Impossible."

"That shows how much you know. Ever hear of the Harry Harris Industrial

Efficiency Program? I didn't think so."

"Past ages uninformed on industrial efficiency. Used normals. Waste of space."

"They knew one thing. They knew, friend, that music in a good fast tempo makes people work better, turn out more."

"Music? Rhythmic noise? Why?"

Harry took a deep breath. "It takes the franniss quotient of the brain waves, instarates the fatigue acids and guarantees a better slattis relationship to product."

"Hmmm."

"Okay, wise guy. Go ahead and turn me into parts."

"Many ancient procedures lost."

Harry jumped on the faint tone of doubt. "Sure they were lost. You people can't keep up with everything. Now with a little cooperation I could reely make a contribution. . . ."

HARRY HARRIS, months later, sat on a raised dais. He swallowed nervously. Got to give them one thing, they could sure follow orders when it came to turning out musical instruments they'd never heard of.

The big lenses and mikes were ready to pick it up and flash it to four hundred thousand fabrication and assembly points.

He gave himself the beat on the piano, picked it up on the string bass, brought the drums into play, stroking gently with the wire brushes, lifted the trumpet to his lips and blasted, lifted the tram to the second set of lips, lifted the clarinet to the third set, and, with a solid rhythm background, stamping the extra foot he had insisted on, he started to give *Muskrat Ramble* a high, wild, hard ride.

In four hundred thousand fabrication and assembly points the tempo of work quickened.

He gave the trumpet the lead, then switched it to the clarinet. He played with most of his eyes half shut, grinning inside as he wondered just what the hell Petrillo would have made of this.



FANDOM'S CORNER

NINETEEN FORTY-NINE was an extremely active year for fantasy clubs. New clubs appeared almost each month, and for the most part they continued and are now becoming stronger and better organized. Nineteen fifty bids fair to carry on with even bigger and better activities.

In the New York area, the Hydra Club had its annual Christmas Party, which was reported in the *New York Times* and *New Yorker*; The Queens SFL is holding its third science-fiction Conclave in February, while The Eastern Science Fiction Association will probably hold its annual convention in March. Other cities throughout the nation are also holding local conventions and conferences.

The National Fantasy Fan Federation, an organization of over 350 members, held its annual election in December, 1949, and on January 20th announced its new officers for 1950. Rick Sneary was elected president. The five directorships went to Art Rapp, Ed Cox, Len Moffatt, Ray Higgs and your reporter, James V. Taurasi. They are already hard at work programming the club's activities for 1950.

Phil Gordon Waggoner sends us information on The Centaureans, an international science-fantasy-weird organization formed in mid-'49. Phil reports that most of the organizational work has been completed and that the club is now open for

Conducted by James V. Taurasi

new members. Officers of the club are: Phil Gordon Waggoner, president and acting secretary; James Harmon, vice-president; James L. Thompson, secretary; K. Martin Carlson, treasurer; Hilary King, Ronald Friedman, Wally Weber and Wilkie Conner, directors. The membership roster also includes such outstanding names as Ray Bradbury, Edmond Hamilton, Ed Cox and Evan H. Appelman. Dues are only 50¢ a year, which should be sent with the application to Carlson, 1028 3rd Ave. S., Moorhead, Minn. For application blank and more detailed information, write to Waggoner at 2316½ Charleston Ave., Mattoon, Ill.

And now, something different in stf fan clubs. This organization is for fans who have access to wire recorders. Here's what Shelby Vick of Box 493, Lynn Haven, Fla., has to say about it: "... the club (Fan Federation For Sound Production) has, of necessity, restricted membership, being for those who have a wire recorder, or access to same. Besides being interested in contacting individuals, we also would like to get in touch with fan clubs who have recorders, or can use someone else's. The purpose of the club is to unite owners of wire recorders, and those interested in same; to discuss fandom, etc. There is an Official Organ—*WIREZ*, the

(Continued on page 128)

The LONG WAY

By FRANCIS L. ASHTON

Three thousand years after takeoff, space before the Calypso's nose was blank and bare . . . behind, the doomed galaxies dissolved in titanic whirlpools of star dust . . . and still the incredible ship forged onward into darkness, where Earth's last destiny was written—for three men alone—in the heart of an unborn star!

THE CALYPSO was moving slowly around the Earth in a refueling orbit, which lay a long way outside that of the moon. The takeoff had been smooth and uneventful, and now she was awaiting the tremendous load of fuel she needed for her long journey.

Within the cabin, Jefferson was watching the radar-echo detector.

"The tender is on the way out," he announced.

"We'll soon be off now," said Jan, with little enthusiasm.

Donald had been watching the slender crescent of the Earth through one of the portholes. Now he stole a glance at his two companions: The renowned Dr. William Jefferson always contrived to look different from everyone else; he even sported a little pointed beard, an unheard-of thing in the twenty-second century. It was all very well for him and for Jan; they had both lived the best part of their lives, while Donald was only at the beginning of his. In this brief period of waiting before the start, the madness of the last few months left him altogether, and he could see clearly what he was doing.

"What *are* we doing it for?" he demanded suddenly.

Jefferson gave him a keen, hard look and said sharply: "You volunteered. I would not have *selected* you."

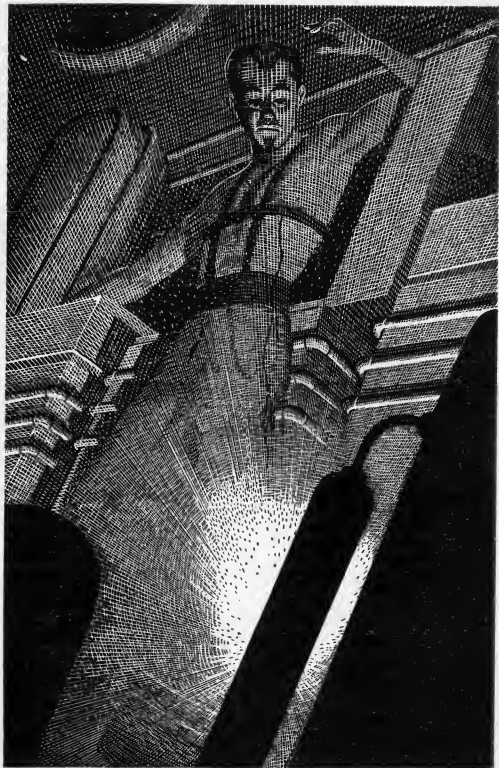
"I am sorry. I shouldn't have said that."

He was afraid of Jefferson. Jan was different. *He* said, "It's always trying, this waiting for the start, whatever the journey."

Whatever the journey! Was ever such a journey as this contemplated outside the realms of madness?

The conversation was interrupted by the arrival of the tender, a ship three times the size of the little *Calypso*. Jefferson went to the radio set and spoke to her captain; and then they were all engaged in the delicate operation of making contact. When the two ships were firmly secured bow to stern, the captain of the tender came aboard to superintend the transference of the fuel. This was to be a much bigger load than the little ship's engines could have lifted off the Earth's surface.

● The "alarm clock" had worked perfectly. . . .



When the work was completed, the captain said: "Well, you've got enough on board to drive my ship half way round the Galaxy and back again."

"We are going farther than that," said Jefferson.

"Rather you than I," replied the captain.

He shook hands all round.

"Good voyage," he said. "I am afraid I shall not live long enough to welcome you home again."

"You would have to live a long time to do that," said Jan grimly.

The captain departed, and his ship cast off. As soon as he had gone, Donald thought: *You fool, you could have gone with them.*

"Let's go," said Jan. "There's nothing to wait for."

"Right," snapped Jefferson. "Switch on the gyros."

He made his way to the pilot's seat, soaring from handhold to handhold.

As Donald watched him lining up the ship on the North Galactic Pole, he became filled with panic.

"I don't want to go!" he shouted. "I want to go back!"

Jefferson turned on him in black fury. "You young fool, you can't go back now. I only brought you because you were wild to come. Brought you, I did, because you had done good work and you deserved a reward. And now, in heaven's name, what has come over you?"

Jan laid a friendly hand on the young man's shoulder. "It's all right, lad, it's only 'takeoff jitters'. We all get the feeling at times. You don't really want to go back."

"I do, I tell you."

"Anyhow, it's too late now," said Jefferson. "Let her go, Jan."

Jan opened the throttles to less than a tenth of their fullest extent. Pale violet flames burst from the four reaction tubes, and the *Calypso* gathered way. They were

so far from the Earth that its gravity was a negligible factor. The engines were working against the ship's inertia, and she was a light ship. She needed very little throttle to give her an acceleration of one G, which was the acceleration decided upon. Her crew would have to live under that thrust for a long time. . . .

Jefferson threw the gyro-pilot into gear and left his seat. The ship could now be left to look after herself. He moved about the cabin looking at this and that instrument. Everything was working perfectly. He hummed a little tune.

Jefferson had schemed, experimented, and struggled for half a century to make this voyage a possibility. He had met with hostility, ridicule, and official inertia. At times it had seemed that he would never get his way, but in the end he had won through. He felt his triumph very keenly now.

Jan went over the instrument panel to see that the engines were working properly. As he did so he thought, *Well, it's as good a way of dying as any other, and there is a chance that Bill's theories are going to work out all right. If they don't we just won't know a thing about it.*

Only Donald was unhappy. He slumped in a seat, regretting his decision to come. It had seemed different on Earth. *Women are the very devil*, he thought. *If it had not been for her!*

THE ACCELERATION was to last for a year. By the end of that time it was expected that the *Calypso's* speed would be about 180,000 miles a second.

"How are you feeling now, Don?" asked Jan kindly.

"Better, thanks. I'm sorry I panicked," Don replied, with his broad, attractive grin.

"Forget it. We all have these moments. The best thing to do is to remind yourself that they will pass."

Jefferson looked at the boy and said: "He'll do, won't he, Jan?"

"Of course he will."

"And now," said Jefferson, "we had best sleep."

He went to a small cupboard and took out a little instrument of glass and bright metal.

"Let's have a look outside first," said Donald, and went to a porthole. The Earth already looked smaller; its crescent had broadened slightly and was further from the sun, owing to the change in the position of the spaceship. He could see the moon as well, a much smaller crescent. He turned away sadly. It was the last he would see of his native Earth.

"You first, Don," said Jefferson.

"Right."

He struggled out of his overalls, beneath which he wore a suit of soft synthetic fiber. He got into his bunk, lay down, and offered a bare arm to Jefferson, who pricked it gently with his instrument. He snuggled down comfortably, but before he went to sleep, he took something from his pocket and looked at it. Sleep claimed him before he could put it away again.

Jan lightly took it from him and showed it to Jefferson. It was a three-dimensional photograph of a lovely girl.

"The young fool," said Jefferson, but his voice was kind.

"She jilted him, that's why he came."

"I see. I wish I had realized that. Ah, well! Sleep, Jan, let us sleep."

Jan put the photograph in a safe place, and, before he went to his bunk, he drew Donald's coverlet over him. It was a tender if unnecessary gesture.

The problem of keeping his crew in mental and physical good health, during the first stage of the journey, had exercised Jefferson's mind as much as had the second stage, around which all the controversy had raged. The little *Calypto* offered none of the amenities for exercise and recreation which were offered by

the big liners. He had decided that they would have to spend at least ninety percent of the time sleeping. The drug which he had given his two companions would ensure sound sleep for about three weeks. Then they would wake, eat, and amuse themselves for a while, and then they would sleep again. It was the only way to cope with the dreadful monotony of this stage of the journey.

He went carefully over everything in the cabin, checked the course, put the light out, and lay down on his bunk. He injected the drug into his own arm.

There was silence in the cabin, but for the gentle breathing of the three men and the steady hum of the gyro pilot. The ship went on her way, piling speed upon speed, another thirty-two feet per second in every second that passed. Outside, the Earth beyond her tail dwindled to a mere star. The disc of the sun grew smaller.

IT WAS a pity that some wit had called them "coffins" for it was a horribly apt name for them. There were three built into the walls of the cabin, rectangular leaden boxes, each made to the measurements of one of the crew.

The year of the acceleration passed swiftly, as indeed it must when so much of it was spent in sleep. During their waking hours they ate and drank and had their muscles exercised by a massaging machine. When these matters were not being attended to, Jan and Jefferson played innumerable games of three-dimensional chess. Donald read copiously about the early days of space exploration, about Lawson, Johnassen, de Villiers and Latchingdon.

They dreamed much when they slept and their dreams usually took them back to the world they had left.

Jefferson dreamed of his past struggles, and in his dreams he was always frustrated at the last moment and knew the bitterness of defeat. He would draw sat-

isfaction from the fact that they were under way, when he awoke.

If Jan's wife had not died, he would not have come. Sometimes he dreamed that she was going to be there at their journey's end. At other times he dreamed of their past happiness, a happiness, which, in his dreams, was brought to an end by the *Calypso's* takeoff. When he woke he was always glad that there had been no such parting.

Loretta, the girl in the photograph, haunted Donald's dreams. Sometimes she was kinder to him than she had ever been; at others she was cold and cruel. She would force him into the spaceship, although he was terrified of it. In his dreams he was put into his coffin, and it was sealed up before the ship started.

Often he had nightmares, and there was one which recurred. He saw the inside of the cabin, and always there was stillness, darkness, and bitter cold; but in spite of the darkness he could see the grim shapes of the "coffins." The terror of nightmare would seize him, as one by one their doors slowly opened to reveal within each a human skeleton.

Outside, the sun's disc shrank to no more than a bright star, though it remained by far the brightest star in the great, hollow sphere which surrounded them. The only other changes were in the shapes of the constellations; but these were slight, and most of the star groups remained easily recognizable.

Their vertical direction was given by the field of their acceleration, therefore the sun occupied the nadir of the celestial sphere, and their objective, the North Galactic Pole, occupied the zenith. Midway between these two points, a wide girdle encircling the entire sphere, ran the starry clouds of the Milky Way. These were always on a level with the eye, if one looked out of any of the side port-holes.

They could estimate their speed by

making measurements of the Doppler displacement of lines in the spectra of stars ahead and behind. Indeed the reddening of the light of the stars behind them became obvious to the unaided eye as the year progressed.

As their speed grew greater, Jan had to be continually opening the throttles a little wider to maintain their acceleration at one G. This was due to the increase in their inertia, the well-known "Einstein effect." They could never reach the speed of light, for then their inertia would become infinite.

TOWARD the end of the year, their speed had reached 160,000 miles a second, and the throttles were open more than twice as wide as they had been at the start. Jefferson, however, insisted that a speed of 180,000 miles a second must be reached. But as the speed of light was approached, Jan had to be continually readjusting the throttles, and he watched the rapid shrinking of their reserves of fuel with an anxious eye. He often did not open the throttles as wide as he should, hoping that Jefferson would not notice the falling off of the acceleration, but he always did.

Forcing their speed up through these last 20,000 miles a second was using up much more fuel than had been needed for the first 160,000. Jan protested: "We must keep some fuel for braking, Bill, we really must."

He wanted to keep half, but already more than half was gone.

"It will be all right," Jefferson assured him. "The resistance of cosmic dust, the gravitational pull of the universe as a whole, will both take a steady toll of our momentum. I must have more speed."

"But it's only a matter of a few thousand miles per second. The consumption of fuel is all out of proportion to the increase we're getting."

"In terms of velocity, yes; but in terms

of momentum, even an increase of only a thousand miles a second makes an enormous difference at this stage. It's the momentum we want."

And this Jan could not deny. He felt relieved, when, in reply to Jefferson's call for more power, he could reply at last that the throttles were wide open and the engines could do no more. Still Jefferson was not satisfied; but he compromised and agreed that the motors should be stopped when two-thirds of the fuel were gone.

Jan shook his head, but he had to agree. The whole project was madness; why should he cavil at some extra recklessness on the part of his leader?

And so the little ship sped on, with her motors roaring at full blast, driving her deeper and deeper into the trackless depths of the universe.

They made their preparations for the second stage of their journey before they stopped the engines, for it was easier to work under gravity. Everything was packed carefully away, so that the cabin was stripped bare, but for the three grim, leaden "coffins." They themselves had to be prepared with certain preliminary drugs, which were part of the Jefferson-Dawson treatment, the famous, if not notorious, suspension of animation.

As Donald helped with the preparations, he grew more and more afraid. The clearing of the cabin, which had been his home for so long, unnerved him; the

coffins had become the dominant feature of the room. Suddenly he cried out, "I won't go in there."

His companions looked at him; his face was dead white and the sweat was running down his forehead.

Jefferson grunted in disgust; but Jan laid a hand on his shoulder. "What's the matter, Don?"

"It's that coffin. I can't—I won't go in it."

The boy had suddenly become beside himself with terror. The two older men had not realized how much the presence of the "coffins" had played upon his mind during the long, dreary months of the acceleration.

"Do you realize," asked Jan, "that our journey is nearly over?"

Donald stared at him. "But," he stammered, "it's only just begun."

"From our point of view it is just over. You will go fast asleep, and when you wake up—to you a few minutes later—we shall be there."

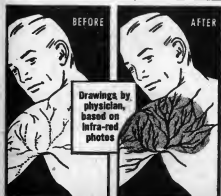
"If I do wake up."

"Of course you will."

"It's not that. I'm not afraid of dying. I'd rather die than go in there."

"You will certainly die if you don't," said Jefferson shortly. "There's no going back now. We haven't the fuel to cancel our outward motion, let alone to start us back."

Jan looked sharply at his friend. That



HOW SLOAN'S LINIMENT AIDS ARTHRITIS PAINS

Working with infra-red photography, science has now demonstrated why Sloan's Liniment is so amazingly effective in helping to bring blessed relief from rheumatic pains and muscular aches. Infra-red photos (see illustration at left) disclose that, after Sloan's is applied to the skin, veins *below the surface* are expanded . . . evidence that an *extra* supply of blood has been brought to the pain area, to revitalize the painful tissues and hasten the removal of waste matter and poisons.

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was no way to calm nerves taut to the breaking point.

"It's all right," he said gently, "you won't have to go in there."

Jefferson caught his meaning. "Get the engines stopped," he said.

Jan closed the throttles. It felt as though the *Calypso* had been suddenly dropped tail first into an abyss and was falling, falling. . . . They were all three experienced in such matters and expected nothing else. But Donald gave a gasping cry, and even Jan paled. It was now that Jefferson's theories and devices were to be put to the test, and the failure of any one of them meant death to them all. It was now that, according to many authorities, they were about to commit suicide.

Jefferson switched off the gyro-pilot, and, as its steady hum died away, the silence of the tomb enfolded them.

"Donald," said Jefferson kindly, "let's have an arm."

Donald rolled up his sleeve, and Jefferson pricked the white skin.

There was no gravity, so he did not fall to the floor; he simply passed out where he was. His breathing slowly grew quieter, dying away until it stopped altogether. The color drained from his face. Jefferson tested his heart and found that it had stopped beating.

"He's under," he announced.

"So that was the last one," said Jan.

"Yes, it was best that way."

Jan nodded. They opened the door of his "coffin" and put him inside. It fitted him exactly.

"What about the 'alarm clock'?" asked Jan.

"It's all ready."

"Well then, there's nothing to wait for." He went to his "coffin" and opened the door.

"What have you set the alarm at?"

"At one hundredth of a half-life."

"That is forty-seven million years, isn't it?"

Jefferson nodded; he was filling his little syringe. Jan rolled up his sleeve, but, before he had his injection, the two life-long friends shook hands.

"Don't forget the fruit juice, when you call me," said Jan. It was the last thing he said before Jefferson's needle sent him to oblivion. Jefferson closed the heavy door of the "coffin."

The instrument, which Jan had called an "alarm clock," now occupied the middle of the floor. Two wires ran from it to Jefferson's "coffin."

Jefferson had a good look around the cabin to make sure that he had forgotten nothing. He put his syringe in a niche inside his "coffin." He took off his overalls and stripped to the waist. He put on the harness, which belonged to the "clock" mechanism, and resumed his overalls. He put out the light and the heater and opened a pair of valves in the wall of the cabin. The temperature raced down, and he began to shiver. In the pitch dark, he felt his way to his "coffin." Inside, he connected his harness with the two leads from the "clock," then he found his syringe and injected the drug. With a great effort, he succeeded in replacing the syringe in its niche before he lost consciousness.

WHEN Jefferson had been a small, grave-eyed boy, he had been shown a photograph of a spiral nebula. "That is a great universe," he had been told, "consisting of millions and millions of suns as great as and greater than our own. It looks so small and faint because it is two hundred million light-years away."

His youthful imagination had been fired, and he had set his finger on the tiny, misty patch of light and had said: "One day I shall go there."

Space travel had been a commonplace for a hundred years when he was born. The solar system had been explored, and

men had visited some of the nearer stars. It had been found that, in empty space, a small force applied continuously to a spaceship over a long period of time would build up an enormous velocity, a velocity which would approach closely to, but, owing to the "Einstein effect," could never exceed, the velocity of light. This velocity was a barrier which could not be broken through; it was impossible to reach any but the very nearest of the stars within the span of a man's lifetime. It was this, everyone said, that put Jefferson's dream out of the realm of possibility. It would be possible to send a spaceship to one of the spiral nebulae, but it would take millions of years for it to get there.

Jefferson's nature was one which would not admit defeat. He became interested in the suspension of animation, for there, he thought, lay the solution of his problem.

Even in the twentieth century, surgeons had brought men back to life after their hearts had stopped beating. Much progress had been made since then, and, before Jefferson entered the field, men had had the action of their hearts stopped for days on end. They had lain as dead until their hearts had been restarted, when they had got up none the worse for the experience.

As soon as the heart stops beating, certain chemical changes take place in the body, which, if they are allowed to go on unchecked, make it impossible for it to be reanimated. The problem of suspending animation was therefore a chemical one; and it was found quite possible to prevent these changes by the preliminary injection of certain compounds into the bloodstream.

Jefferson saw at once that such methods could only be partially effective; if animation were to be suspended for any length of time it would be necessary to inhibit absolutely any sort of change, physical, chemical, or bacteriological, within the

body. The last two of these influences could be stopped quite simply by the application of extreme cold. At freezing point, bacterial activity is suspended; at temperatures approaching absolute zero, any sort of chemical change is impossible.

After some preliminary experiments, he had one conducted on himself. His animation was suspended by the usual chemical means. His body was taken to an underground laboratory, and there was maintained at a temperature within a few degrees of absolute zero for a whole year. At the end of that period, the temperature was slowly raised to normal, when the action of his heart was restarted. He was none the worse for his ordeal. He was precisely the same man he had been before he went under. The time had passed in a flash, a year had been completely excluded from his life. He was not a minute older than he had been at the start of the experiment.

"You see, the beauty of it is this," he said to Jan: "In a spaceship there will be no need for elaborate refrigeration, we have only to let in the cold of space. In the laboratory my body had to be turned over periodically because gravity was acting upon it all the time, doing its best to displace and flatten my organs; but in a spaceship with the power off, there will be no gravity, no field of force at all. There will be nothing happening within the body, and there will be nothing acting upon the body from outside. For it, time will be at a standstill."

"What about cosmic rays?"

"That is an item. The body had better be protected by heavy lead shielding."

And so the idea of the "coffins" was born.

"I can see no reason at all," continued Jefferson, "why it should make the slightest difference whether the period of suspension is a year, a hundred years, a thousand, a million, or, for that matter, a billion years."

"How," asked Jan, "do you propose to bring your crew back to life at the end of the thousand million years or so?"

And that was indeed a poser.

In any case the action of the heart had to be restarted by electrical means, and an automatic device could easily be made to do that. If the suspension had had to last only for a few years, it would have been easy to construct a mechanical clock, which would set the device in action at the required time. But with the contemplated time interval, any mechanism which depended upon continuously working parts was out of the question.

Jefferson saw at once that uranium would be the only possible timekeeper; but it took him twenty years to perfect his "alarm clock," as Jan called it. Uranium with its half-life of four billion, seven hundred million years would mark the passage of time for as long as he was likely to need it. The problem was to make it work the reviving apparatus when its activity had decayed by the required amount. It was obvious that some intermediary would be wanted.

The intermediary was a cross between a pile reactor and an atomic bomb. It was only some two feet in diameter, and when the alarm was set, it was charged with fissile material. Nothing, however, could happen until a slow neutron had been introduced into the pile to start the chain reaction. After the trigger action of the neutron, the pile would heat up and so warm up the cabin. As soon as the temperature was back to normal, various instruments would start working, and, when everything was ready for him, Jefferson would be revived. All that was simple enough.

The problem narrowed down to one of making the uranium send a neutron into the pile at the desired moment. In the end he devised a very simple and elegant little mechanism. The uranium was kept in a lead container with a small window,

through which there issued a stream of emanations. This was directed at a crystal of beryllium, but between the crystal and the window there was a screen with a minute door in it. The door was made of material impervious to alpha particles, and it was held shut by the pressure of the alpha radiation against it. If this stopped or its intensity dropped below a certain point, the door opened under the action of a tiny magnetic field. The strength of this field could be adjusted so that the door would open after the activity of the uranium had decayed by any desired amount. As soon as it was open, alpha particles started entering the beryllium, which produced neutrons under their bombardment. Some of these neutrons entered the pile and started the chain reaction.

Simple though it was, it was nonetheless a mechanism and depended upon a moving part. The movement would only have to be made once, but everybody predicted that the door would not open when the time came. In the course of ages the hinge would stiffen.

"There is no hinge," he replied.

"The continued pressure of the alpha radiation will force the door into the screen and they will become united."

"The exact value of the microscopic force has of course been calculated, and it will be insufficient to force the door into the screen. There is no danger whatever of the door combining with the screen, for all chemical processes will be at a standstill."

"The magnetic field will fail."

"Why?"

And so the controversy had raged. Though Jefferson defended his idea successfully, he did not altogether like it. It was simple, but it was not simple enough, it was the weakest link in the chain. Whenever he reassured himself or his friends that everything was going to be all right, he took to adding to himself: "Always provided the door opens."

Yes, everything depended upon that.

WITHIN the cabin was darkness, stillness, and utter cold. The last shreds of air liquefied in globules on the walls, floor, and roof, and then they froze solid.

Outside there was change. As the years passed, the bright star, which was the sun, faded and faded until it became an insignificant point of light amongst innumerable others. The constellations changed their shapes until there were no recognizable groups left.

As decades became centuries, a slight alteration in the position of the Milky Way would have become noticeable, if there had been anyone to notice. It was no longer on the level with an eye looking out of a side porthole, it was slightly below it. The girdle was slipping slowly down the sphere. At the same time the stars in front of the *Calypso* thinned out and those behind her grew more dense.

At the end of the first millenium, the Milky Way was no longer a girdle around the celestial sphere, it was a mass of star clouds filling the lower part of it. There were very few stars to be seen ahead.

Three thousand years later space before the *Calypso's* nose was blank and bare with never a star in sight, and so it was on either hand; but behind her tail the stars shone in myriad upon myriad. The true shape of the galaxy could now be seen, covering a third of the sky, a titanic whirlpool of scintillating star dust, a mighty vortex in which whirled a hundred billion suns.

The little *Calypso* sped on, one hundred and eighty thousand miles in every second that passed, and, as the seconds added up to more and more millenia, so did the titanic whirlpool grow smaller and smaller behind her tail. In time it was no more than a misty patch, like the one in the photograph which had first fired Jefferson's imagination.

Before it had entirely faded from sight, a second misty patch appeared, not directly ahead but on the bow. It gradually grew bigger, until it could be seen to be a spiral, elliptical in outline, for it was partly edge-on. As more ages passed it swung to one side, and, when it was abeam, the star dust, of which it was made, could be faintly discerned.

Within the cabin the uranium was still shooting out its particles at a steadily decreasing rate, as it had been doing since the beginning of time. In due course a red glow came from the miniature pile reactor, and the temperature began to rise. The air melted and vaporized, the cabin became a warm and friendly place again; even the light was switched on.

The door of Jefferson's coffin opened. He emerged and looked about him. He went to the porthole and spent a long time looking at the nebula abeam. He studied it through the spectroscope and made some measurements. When he had finished, he shook his head.

He set to work. He was calm and collected, and he even hummed a little tune. He had much to do. The pile had to be emptied and recharged, the alarm had to be reset for some far future date. His companions had to be re-injected, so that they would take no harm from the short period of warmth before they were restored to the security of utter cold. When everything had been done to his satisfaction, he turned off the light and the heater, opened the valves, and returned to his coffin. He used the needle.

Again the temperature fell with a rush, and everything within the cabin came to a standstill. Outside, the nebula dropped astern and faded from sight. And then there was no further change, for there was nothing to be seen on all sides but a terrible, all-enveloping darkness. Time stood still, for there were no events to give meaning to its passage. Only within that world apart from all others, the infinitesi-

mal world of the nucleus, did time, its own time, go on. Only within the little mass of uranium on the floor did anything happen.

It might have been a few moments or a hundred million years before Jefferson was roused again, and he went through a routine similar to the one he had performed the time before; but this time there was no nebula to be examined. He was roused several times before there was any change. At last, looking through the forward port, he saw a tiny whirlpool of greenish light.

"Well done, *Calypso*," he said aloud to his ship. "Well done. Landfall ahead; journey's end in sight."

He turned to his "alarm clock". Again he spoke aloud.

"It worked," he said, "every time without a hitch."

He wished he could tell the scoffers; but he recollected that they must have been dead and forgotten for millions of years, unless anthropologists were arguing over their bones and trying to reconstruct from them the morphology of a lost, early race. He chuckled as he charged the pile for the last time.

DONALD opened his eyes. He was in his bunk, and his two companions were standing over him.

"No," he said, "I can't face it. I won't go into that horrible box. I'd rather die."

Jan and Jefferson looked at each other and grinned.

"It's all right, Don," said Jan, "it's all over."

He could not believe it. It seemed to him that only a moment had passed since they had been clearing up in preparation for the unimaginably long stage of their journey. In fact it was difficult to see how Jan and Jefferson had had time to replace everything in the cabin.

He went to the porthole and looked out for a long while. On all sides was

the familiar hollow sphere studded with stars. On a level with his eye was the Milky Way, and beyond their tail was a bright star. The constellations had changed and so had the shape of the Milky Way; but everything else was the same. The engines were producing one G in the direction of the floor.

"What has happened?" he asked.

Jan explained, "We didn't bring you around until we had got the cabin put straight. We are decelerating. I've swung the *Calypso* around through one hundred eighty degrees, and her tail is now in the direction of her motion. We are heading for the bright star which you saw."

"So that is not the sun."

Jan laughed.

"My dear Don, we are in another galaxy," he said.

Donald was hardly able to take in his words. For, though the object of their voyage had been to reach another galaxy, it was beyond imagination to think that they were actually there.

"So we are going to that bright star to land?" he asked.

"If it has any planets."

"Why did you select that one?"

"We didn't. It happened to be right in our way. It has the same type of spectrum as the sun's, but it is a trifle smaller. It seems as good as any other."

Donald went back to the porthole. He stroked his chin; it was as smooth as when he had fallen asleep untold millions of years ago. He was not a day older than he had been. The long sleep had not even refreshed him.

"Strikes me," he grumbled, "one galaxy is exactly like another."

"And that," said Jefferson, "a trifle sadly, 'is the beginning of wisdom.'"

AS JAN found when he restarted the motors, Jefferson had been quite right: during her long trip the *Calypso* had lost considerable momentum. One fifth throttle

was all that was required to produce a deceleration field of one G, and that meant that their speed could not be more than 160,000 miles a second, and that the greater part of their momentum had been shed. This was fortunate, for they only had a third of their fuel left for braking purposes. As it was, the *Calypso* still had a useful reserve of fuel when she approached her objective.

To their delight the star proved to have planets. Moreover there was one, revolving at about eighty five million miles, which seemed to be a fair replica of the Earth. They circled it and examined it carefully. Spectrum analysis showed that the atmosphere consisted of oxygen and nitrogen. There were polar caps and there were clouds in the atmosphere. Its surface was about three-fifths ocean. Unlike the Earth, its land was concentrated in a single mass; and it had no moon.

"How extraordinarily fortunate," said Jan, "to come upon a world like this by chance."

"Yes," said Jefferson, with a smile which suggested that he knew something Jan did not.

They chose a temperate latitude, a place not far from the sea where the verdure was emerald-green. The *Calypso* settled gently to the ground in a valley between rounded hills. A river of clear water ran along its bottom between woods and wide spaces of rich grass.

The three men left the prison which had contained them for so long. They might have been on Earth. The sky was blue, with rounded masses of cumulous cloud; the star shone brightly; the air was soft and warm and was as breathable as that on Earth. They could hardly contain their emotions.

Donald ran down to the river, tore off his clothes, and plunged in. He swam a few strokes and then stood up in a shallow place with the water glistening on rippling muscles. He laughed for joy. The two older men strolled down to the river bank.

"Look," said Jan, "over there, those things are houses!"

He pointed to where, amongst the trees, the white walls of a number of little buildings could be seen, shining like brightly polished marble.

"They look pleasant enough," said Jefferson.

"I wonder who lives there."
"We'll soon find out."

As he spoke, they heard something approaching through the little coppice on their right. Jan's heart raced. What weird denizens might be on this planet, what strange forms of life in a place at such an unimaginable distance from the Earth! He closed his eyes and prayed that it might not be something which would ruin for them the paradise that they had found.

**BROKER
NO
JOKER**



EAST ST. LOUIS, Ill.—

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THE GIRL was lovely. She came running out of the wood, laughing happily. Her cheeks were flushed with her running and her eyes sparkled. She wore nothing but a piece of white drapery, caught round her waist in a kilt, and thrown carelessly over her shoulder.

She looked at them, smiling, curious, a little startled. Her large eyes strayed from them to where the *Calyпсо* rested on the crest of a rise, then away to where Donald stood in the water. She bounded down to the water's edge.

"Hello!" he cried.

"Lo!" she answered.

Jan felt saddened by this instant desertion at the sight of Donald; but his greatest emotion was utter amazement. If the girl had started to speak English, he could not have been more surprised. But she did not do so, she was speaking rapidly, a queer, though musical, jumble of sounds.

But now other people were approaching more sedately, a middle-aged woman, who carried herself proudly, and an elderly man with a high forehead and silver hair.

They stood a little way off, smiling with great friendliness but at a loss to communicate. Jefferson pointed at the *Calyпсо* and then up into the sky. His gestures seemed to be understood. They pointed to their houses and made gestures which were obviously invitations. Then they all four looked toward the river and laughed. Donald had come out of the water, and he and the girl were sitting on the river bank. They were smiling and laughing and gesticulating animatedly. They already seemed to have no difficulty in understanding each other.

Jan glanced at the *Calyпсо*, still graceful in line, but with her surface seared and scarred by the dust particles she had met on her stupendous journey. He thought of appalling vistas of space and time, of

mighty universes of blazing suns, and of the awful wastes of emptiness between; and he thought of the way they had all been consigned to oblivion when those two young people looked into each other's eyes.

IT WAS some days before the truth dawned upon Jan, and when it did it was like a thunderclap.

"Bill," he said, "this is the Earth!"

"Of course it is. I was wondering how long it would be before you tumbled to it."

"But—"

"We circumnavigated the universe. It has been known since the days of Einstein, Lemaître and de Sitter, that if you go on traveling long enough in a straight line you wind up back where you started from."

"Yes, but the sun must have moved an immense distance while we were away."

"We did not correct for the sun's lateral displacement; we shared it all the time."

"But what about the nebula for which we set our course?"

"We passed within sight of it. What went wrong, I don't know. We hadn't nearly enough fuel left to correct our course, and so there was nothing for it but to keep going until we *did* get somewhere. I had to set the 'alarm' several times."

"Several times!"

"Yes, I was beginning to get quite anxious, for we were down to our last charges for the pile when I sighted the galaxy."

"So this is the Earth—hundreds of millions of years hence."

"This is the Earth as it is now," corrected his friend, "as opposed to what it was when we knew it hundreds of millions of years ago."

"What has happened to the moon?"

"It is probably now part of the Earth."

I guess it spiraled down to the Earth, broke up, and became part of it. The process took millions of years and it all happened millions of years ago. In the same way, owing to the resistance of the cosmic cloud, the Earth is now closer to the sun. This is fortunate, because the sun has dwindled quite a lot, much of its substance having been transformed into radiation."

"I see. It does make you feel a bit old, doesn't it? What about the change in the continents?"

"Wegener was evidently right about continental drift. They have drifted together again to form a new Gondwanaland."

"But these people—shouldn't they have evolved into something different?"

"Evolution doesn't work like that," Jefferson told him. "It goes on working until it has produced something as near perfection as it can get; and then it stops."

"Well, at any rate, they seem to have discovered the secret of living. They don't bother themselves with the numerous

gadgets we used in our civilization. Life is simplicity itself and seems much happier."

"I have no doubt about that. I have seen no animals about, and I think they must all be extinct. However we shall find out all about these things when we understand the lingo. How are your studies progressing?"

"Not very fast, I am afraid. It will be easier to get it from Don."

He felt very lazy and content. He and Jefferson were sitting in the sun, in fact they had not done much else but sit in the sun since their arrival.

"Yes," said Jefferson, "he is making great strides; and so he should with such a delightful teacher."

They glanced to where Donald and the girl were sitting. The two looked well together, Jefferson thought. Somehow the envy and pride that had driven him all his life were very remote now; he couldn't imagine what had possessed him to make such a trip . . . but he was very content to be here.



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THE CALL FROM BEYOND



CHAPTER ONE

The Pyramid of Bottles

THE PYRAMID was built of bottles, hundreds of bottles that flashed and glinted as if with living fire, picking up and breaking up the misty light that filtered from the distant sun and still more distant stars.

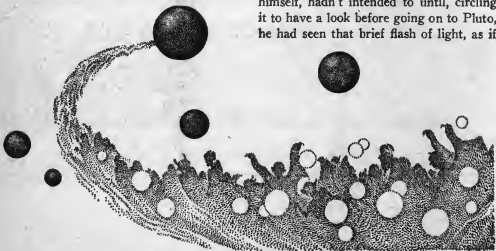
Frederick West took a slow step forward, away from the open port of his tiny ship. He shook his head and shut his eyes and opened them again and the pyramid was still there. So it was no figment, as he had feared, of his imagination,

Alone, accursed, he set out on the long, dark voyage to the forbidden gateway to worlds beyond life itself—restless forever with an ultimate knowledge, possessing which no man could die!

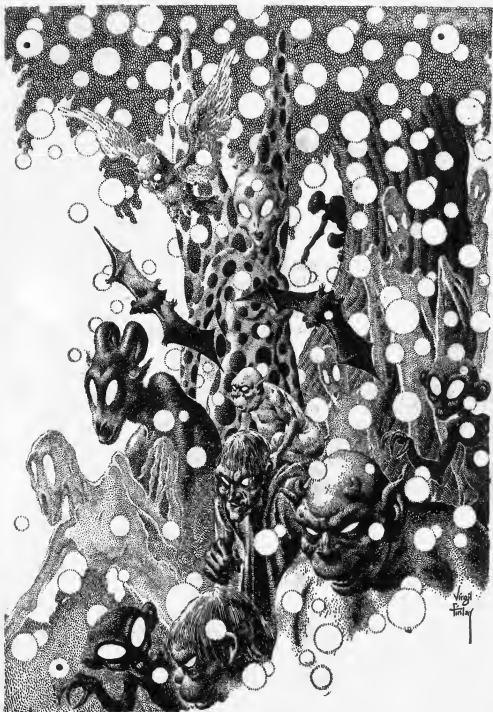
born in the darkness and the loneliness of his flight from Earth.

It was there and it was a crazy thing. Crazy because it should not be there, at all. There should be nothing here on this almost unknown slab of tumbling stone and metal.

For no one lived on Pluto's moon. No one ever visited Pluto's moon. Even he, himself, hadn't intended to until, circling it to have a look before going on to Pluto, he had seen that brief flash of light, as if



By CLIFFORD D. SIMAK



He had seen those faces before . . . things that came from beyond, entities
that broke in from the outside. . .

someone might be signaling. It had been the pyramid, of course. He knew that now. The stacked-up bottles catching and reflecting light.

Behind the pyramid stood a space hut, squatted down among the jagged boulders. But there was no movement, no sign of life. No one was tumbling out of the entrance lock to welcome him. And that was strange, he thought. For visitors must be rare, if, indeed, they came at all.

Perhaps the pyramid really was a signaling device, although it would be a clumsy way of signaling. More likely a madman's caprice. Come to think of it, anyone who was sufficiently deranged to live on Pluto's moon would be a fitting architect for a pyramid of bottles.

The moon was so unimportant that it wasn't even named. The spacemen, on those rare occasions when they mentioned it at all, simply called it "Pluto's moon" and let it go at that.

No one came out to this sector of space any more. Which, West told himself parenthetically, is exactly why I came. For if you could slip through the space patrol you would be absolutely safe. No one would ever bother you.

No one bothered Pluto these days. Not since the ban had been slapped on it three years before, since the day the message had come through from the scientists in the cold laboratories which had been set up several years before that.

No one came to the planet now. Especially with the space patrol on guard . . . although there were ways of slipping through. If one knew where the patrol ships would be at certain times and build up one's speed and shut off the engines, coasting on momentum in the shadow of the planet, one could get to Pluto.

West was near the pyramid now and he saw that it was built of whisky bottles. All empty, very empty, their labels fresh and clear.

West straightened up from staring at

the bottles and advanced toward the hut. Locating the lock, he pressed the button. There was no response. He pressed it again. Slowly, almost reluctantly, the lock swung in its seat. Swiftly he stepped inside and swung over the lever that closed the outer lock, opened the inner one.

Dim light oozed from the interior of the hut and through his earphones West heard the dry rustle of tiny claws whispering across the floor. Then a gurgling, like water running down a pipe.

Heart in his mouth, thumb hooked close to the butt of his pistol, West stepped quickly across the threshold of the lock.

A man, clad in moth-eaten underwear, sat on the edge of the cot. His hair was long and untrimmed, his whiskers sprouted in black ferocity. From the mat of beard two eyes stared out, like animals brought to bay in caves. A bony hand thrust out a whisky bottle in a gesture of invitation.

The whiskers moved and a croak came from them. "Have a snort," it said.

West shook his head. "I don't drink."

"I do," the whiskers said. The hand tilted the bottle and the bottle gurgled.

West glanced swiftly around the room. No radio. That made it simpler. If there had been a radio he would have had to smash it. For, he realized now, it had been a silly thing to do, stopping on this moon. No one knew where he was . . . and that was the way it should have stood.

West snapped his visor up.

"Drinking myself to death," the whiskers told him.

West stared, astounded at the utter poverty, at the absolute squalor of the place.

"Three years," said the man. "Not a single sober breath in three solid years." He hiccupped. "Getting me," he said. His left hand came up and thumped his shrunken chest. Lint flew from the ragged underwear. The right hand still clutched the bottle.

"Earth years," the whiskers explained.
"Three Earth years. Not Pluto years."

THING that chattered came out of the shadows in one corner of the hut and leaped upon the bed. It hunched itself beside the man and stared leeringly at West, its mouth a slit that drooled across its face, its puckered hide a horror in the sickly light.

"Meet Annabelle," said the man. He whistled at the thing and it clambered to his shoulder, cuddling against his cheek. West shivered at the sight.

"Just passing through?" the man inquired.

"My name is West," West told him. "Heading for Pluto."

"Ask them to show you the painting," said the man. "Yes, you must see the painting."

"The painting?"

"You deaf?" asked the man, belligerently. "I said a painting. You understand—a picture."

"I understand," said West. "But I didn't know there were any paintings there. Didn't even know there was anybody there."

"Sure there is," said the man. "There's Louis and—"

He lifted the bottle and took a snort.

"I got alcoholism," said the man. "Good thing, alcoholism. Keeps colds away. Can't catch a cold when you got alcoholism. Kills you quicker than a cold, though. Why, you might go on for years having colds—"

"Look," urged West, "you have to tell me about Pluto. About who's there. And the painting. How come you know about them?"

The eyes regarded him with drunken cunning.

"You'd have to do something for me. Couldn't give you information like that out of the goodness of my heart."

"Of course," agreed West. "Anything

that you would like. You just name it."

"You got to take Annabelle out of here," the man told him. "Take her back where she belongs. It isn't any place for a girl like her. No fit life for her to lead. Living with a sodden wreck like me. Used to be a great man once. . . yes, sir, a great man. It all came of looking for a bottle. One particular bottle. Had to sample all of them. Every last one. And when I sampled them, there was nothing else to do but drink them up. They'd spoil for sure if you let them stand around. And who wants a lot of spoiled liquor cluttering up the place?"

He took another shot.

"Been at it ever since," he explained. "Almost got them now. Ain't many of them left. Used to think that I'd find the right bottle before it was too late and then everything would be all right. Wouldn't do me no good to find it now, because I'm going to die. Enough left to last me, though. Aim to die plastered. Happy way to die."

"But what about those people on Pluto?" demanded West.

The whiskers snickered. "I fooled them. They gave me my choice. Take anything you want, they said. Big-hearted, you understand. Pals to the very last. So I took the whisky. Cases of it. They didn't know, you see. I tricked them."

"I'm sure you did," said West. Tiny, icy feet ran up and down his spine. For there was madness here, he knew, but madness with a pattern. Somewhere, somehow, this twisted talk would fall into a pattern that would make sense.

"But something went wrong," the man declared. "Something went wrong."

Silence whistled in the room.

"You see, Mr. Best," the man declared. "I—"

"West," said West. "Not Best. West."

The man did not seem to notice. "I'm going to die, you understand. Any minute, maybe. Got a liver and heart and either

one could kill me. Drinking does that to you. Never used to drink. Got into the habit when I was sampling all these bottles. Got a taste for it. Then there wasn't anything to do—"

He hunched forward.

"Promise you will take Annabelle," he croaked.

Annabelle tittered at West, slobber drooling from her mouth.

"But I can't take her back," West protested, "unless I know where she came from. You have to tell me that."

The man wagged a finger. "From far away," he croaked, "and yet not so very far. Not so very far if you know the way."

West eyed Annabelle with the gorge rising in his throat.

"I will take her," he said. "But you have to tell me where."

"Thank you, Guest," said the man. He lifted the bottle and let it gurgle.

"Not Guest," said West, patiently. "My name is—"

The man toppled forward off the bed, sprawled across the floor. The bottle rolled crazily, spilling liquor in sporadic gushes.

West leaped forward, knelt beside the man and lifted him. The whiskers moved and a whisper came from their tangled depths, a gasping whisper that was scarcely more than a waning breath.

"Tell Louis that his painting—"

"Louis?" yelled West. "Louis who? What about—"

The whisper came again. "Tell him... someday... he'll paint a wrong place and then..."

Gently West laid the man back on the floor and stepped away. The whisky bottle still rocked to and fro beneath a chair where it had come to rest.

SOMETHING glinted at the head of the cot and West walked to where it hung. It was a watch, a shining watch, polished with years of care. It swung slowly from a leather thong tied

to the rod that formed the cot's head, where a man could reach out in the dark and read it.

West took it in his hand and turned it over, saw the engraving that ran across its back. Bending low, he read the inscription in the feeble light.

To Walter J. Darling, from class of '16,
Mars Polytech.

West straightened, understanding and disbelief stirring in his mind.

Walter J. Darling, that huddle on the floor? Walter J. Darling, one of the solar system's greatest biologists, dead in this filthy hut? Darling, teacher for years at Mars Polytechnical Institute, that shrunk-en, liquor-sodden corpse in shoddy underwear?

West wiped his forehead with the back of his space-gloved hand. Darling had been a member of that mysterious government commission assigned to the cold laboratories on Pluto, sent there to develop artificial hormones aimed at controlled mutation of the human race. A mission that had been veiled in secrecy from the first because it was feared, and rightly so, that revelation of its purpose might lead to outraged protests from a humanity that could not imagine why it should be improved biologically.

A mission, thought West, that had set out in mystery and ended in mystery, mystery that had sent whispers winging through the solar system. Shuddery whispers.

Louis? That would be Louis Nevin, another member of the Pluto commission. He was the man Darling had tried to tell about just before he died.

And Nevin must still be out here on Pluto, must still be alive despite the message that had come to Earth.

But the painting didn't fit. Nevin wasn't an artist. He was a biologist, scarcely second to Darling.

The message of three years before had

been a phony, then. There were men still on the planet.

And that meant, West told himself bitterly, that his own plan had gone awry. For Pluto was the only place in the Solar System where there would be food and shelter and to which no one would ever come.

He remembered how he had planned it all so carefully . . . how it had seemed a perfect answer. There would be many years' supply of food stacked in the store-rooms, there would be comfortable living quarters, and there would be tools and equipment should he ever need them. And, of course, the Thing, whatever it might be. The horror that had closed the planet, that had set the space patrol to guard the planet's loneliness.

But West had never been too concerned with what he might find on Pluto, for whatever it might be, it could be no worse than the bitterness that was his on Earth.

There was something going on at the Pluto laboratories. Something that the government didn't know about or that the government had suppressed along with that now infamous report of three years before.

Something that Darling could have told him had he wanted to . . . or had he been able. But now Walter J. Darling was past all telling. West would have to find out by himself.

West stepped to where he lay, lifted him to the cot and covered him with a tattered blanket.

Perched on the cot head, Annabelle chattered and giggled and drooled.

"Come here, you," said West. "Come on over here."

Annabelle came, slowly and coyly. West lifted her squeamishly, thrust her into an outer pocket and zipped it shut. He started toward the doorway.

On the way out he picked the empty bottle from the floor, added it to the pyramid outside.

CHAPTER TWO

The White Singer

WEST'S craft fled like a silvery shadow between the towering mountain peaks shielding the only valley on Pluto that had ever known the tread of Man.

Coasting in on silent motors in the shadow of the planet, he had eluded the patrol. Beyond the mountains he had thrown in the motors, had braked the plunging ship almost to a crawl, taking the chance the flare of the rockets might be seen by any of the patrol far out in space.

And now, speed reduced, dropping in a long slant toward the glass-smooth landing field, he huddled over the controls, keyed to a free-fall landing, always dangerous at best. But it would be as dangerous, he sensed, to advertise his coming with another rocket blast. The field was long and smooth. If he hit it right and not too far out, there would be plenty of room.

The almost nonexistent atmosphere was a point in favor. There were no eddies, no currents of air to deflect the ship, send it into a spin or a dangerous wobble.

Off to the right he caught a flash of light and his mind clicked the split-second answer that it must be the laboratory.

Then the ship was down, pancaking, hissing along the landing strip, friction gripping the hull. It stopped just short of a jumbled pile of rock and West let out his breath, felt his heart take up the beat again. A few feet more . . .

Locking the controls, he hung the key around his neck, pulled down the visor of his space gear and let himself out of the ship.

Across the field glowed the lights of the laboratory. He had not been mistaken, then. He had seen the lights . . . and men were here. Or could he be mistaken?

Those lights would have continued to function even without attention. The fact that they were shining in the building was no reason to conclude that men also were there.

At the far end of the field loomed a massive structure and West knew that it was the shops of the Alpha Centauri expedition, where men had labored for two years to make the Henderson space drive work. Somewhere, he knew, in the shadow of the star-lighted shops, was the ship itself, the *Alpha Centauri*, left behind when the crew had given up in despair and gone back to Earth. A ship designed to fly out to the stars, to quit the Solar System and go into the void, spanning light years as easily as an ordinary ship went from Earth to Mars.

It hadn't gone, of course, but that didn't matter.

"A symbol," West said to himself.

That was what it was... a symbol and a dream.

And something, too, now that he was here, now that he could admit it, that had lain in the back of his mind all the way from Earth.

West slucked his belt around so that the pistol hung handy to his fist.

If men were here... or worse, if that message hadn't been a phony, he might need the pistol. Although it was unlikely that the sort of thing that he then would face would be vulnerable to a pistol.

Shivering, he remembered that terse, secret report reposing in the confidential archives back on Earth... the transcription of the tense, rasping voice that had come over the radio from Pluto, a voice that told of dreadful things, of dying men and something that was loose. A voice that had screamed a warning, then had gurgled and died out.

It was after that that the ban had been put on the planet and the space patrol sent out to quarantine the place.

Mystery from the first, he thought...

beginning and the end. First, because the commission was seeking a hormone to effect controlled mutations in the human race. And the race would resent such a thing, of course, so it had to be a mystery.

The human race, West thought bitterly, resents anything that deviates from the norm. It used to stone the leper from the towns and it smothered its madmen in deep featherbeds and it stares at a crippled thing and its pity is a burning insult. And its fear... oh, yes, its fear!

Slowly, carefully, West made his way across the landing strip. The surface was smooth, so smooth that his space boots had little grip upon it.

On the rocky height above the field stood the laboratory, but West turned back and stared out into space, as if he might be taking final leave of someone that he knew.

Earth, he said. Earth, can you hear me now?

You need no longer fear me and you need not worry, for I shall not come back.

But the day will come when there are others like me. And there may be even now.

For you can't tell a mutant by the way he combs his hair, nor the way he walks or talks. He sprouts no horns and he grows no tail and there's no mark upon his forehead.

But when you spot one, you must watch him carefully. You must spy against him and set double-checks about him. And you must find a place to put him where you'll be safe from anything he does... but you must not let him know. You must try him and sentence him and send him into exile without his ever knowing it.

Like, said West, you tried to do with me.

But, said West, talking to the Earth, I didn't like your exile, so I chose one of my own. Because I knew, you see. I knew when you began to watch me and about the double-checks and the conferences and

the plan of action and there were times when I could hardly keep from laughing in your face.

HE STOOD for a long moment, staring into space, out where the Earth swam somewhere in darkness around the star-like Sun.

Bitter? he asked himself. And answered: No, not bitter. Not exactly bitter.

For you must understand, he said, still talking to the Earth, that a man is human first and mutant after that. He is not a monster simply because he is a mutant... he is just a little different. He is human in every way that you are human and it may be that he is human in more ways than you are. For the human race as it stands today is the history of long mutancy... of men who were a little different, who thought a little clearer, who felt a deeper compassion, who held an attribute that was more human than the rest of their fellow men. And they passed that clearer thinking and that deeper compassion on to sons and daughters and the sons and daughters passed it on to some—not all—but some of their sons and daughters. Thus the race grew up from savagery, thus the human concept grew.

Perhaps, he thought, my father was a mutant, a mutant that no one suspected. Or it may have been my mother. And neither of them would have been suspected. For my father was a farmer and if his mutancy had made the crops grow a little better through his better understanding of the soil or through a deeper feeling for the art of growing things, who would there be to know that he was a mutant? He would simply have been a better farmer than his neighbors. And if at night, when he read the well-worn books that stood on the shelf in the dining room, he understood those books and the things they meant to say better than most other men, who was there to know?

But I, he said, I was noticed. That is

the crime of mutancy, to be noticed. Like the Spartan boy whose crime of stealing a fox was no crime at all, but whose cries when the fox ripped out his guts were a crime indeed.

I rose too fast, he thought. I cut through too much red tape. I understood too well. And in governmental office you can not rise too fast nor cut red tape nor understand too well. You must be as mediocre as your fellow office-holders. You cannot point to a blueprint of a rocket motor and say, "There is the trouble," when men who are better trained than you cannot see the trouble. And you cannot devise a system of production that will turn out two rocket motors for the price of one in half the time. For that is not only being too efficient; it's downright blasphemy.

But most of all you cannot stand up in open meeting of government policy makers and point out that mutancy is no crime in itself... that it only is a crime when it is wrongly used. Nor say that the world would be better off if it used its mutants instead of being frightened of them.

Of course, if one knew one was a mutant, one would never say a thing like that. And a mutant, knowing himself a mutant, never would point out a thing that was wrong with a rocket engine. For a mutant has to keep his mouth shut, has to act the mediocre man and arrive at the ends he wishes by complex indirection.

If I had only known, thought West. If I had only known in time. I could have fooled them, as I hope many others even now are fooling them.

But now he knew it was too late, too late to turn back to the life that he had rejected, to go back and accept the dead-end trap that had been fashioned for him... a trap that would catch and hold him, where he would be safe. And where the human race would be safe from him.

West turned around and found the path

that led up the rocky decline toward the laboratory.

A hulking figure stepped out of the shadows and challenged him.

"Where do you think you're going?"

West halted. "Just got in," he said. "Looking for a friend of mine. By the name of Nevin."

Inside the pocket of his suit, he felt Annabelle stirring restlessly. Probably she was getting cold.

"Nevin?" asked the man, a note of alarm chilling his voice. "What do you want of Nevin?"

"He's got a painting," West declared.

The man's voice turned silky and dangerous. "How much do you know about Nevin and his painting?"

"Not much," said West. "That's why I'm here. Wanted to talk with him about it."

Annabelle turned a somersault inside West's zippered pocket. The man's eyes caught the movement.

"What you got in there?" he demanded, suspiciously.

"Annabelle," said West. "She's—well, she's something like a skinned rat, partly, with a face that's almost human, except it's practically all mouth."

"You don't say. Where did you get her?"

"Found her," West told him.

Laughter gurgled in the man's throat. "So you found her, eh? Can you imagine that?"

He reached out and took West by the arm.

"Maybe we'll have a lot to talk about," he said. "We'll have to compare our notes."

Together they moved up the hillside, the man's gloved hand clutching West by the arm.

"You're Langdon," West hazarded, as casually as he could speak.

The man chuckled. "Not Langdon. Langdon got lost."

"That's tough," commented West. "Bad place to get lost on... Pluto."

"Not Pluto," said the man. "Somewhere else."

"Maybe Darling, then..." and he held his breath to hear the answer.

"Darling left us," said the man. "I'm Cartwright. Burton Cartwright."

On the top of the tiny plateau in front of the laboratory, they stopped to catch their breath. The dim starlight painted the valley below with silver tracery.

West pointed. "That ship!"

Cartwright chuckled. "You recognize it, eh? The *Alpha Centauri*."

"They're still working on the drive, back on Earth," said West. "Someday they'll get it."

"I have no doubt of it," said Cartwright.

He swung back toward the laboratory. "Let's go in. Dinner will be ready soon."

THE TABLE was set with white cloth and shining silver that gleamed in the light of the flickering dinner tapers. Sparkling wine glasses stood in their proper places. The centerpiece was a bowl of fruit—but fruit such as West had never seen before.

Cartwright tilted a chair and dumped a thing that had been sleeping there onto the floor.

"Your place, Mr. West," he said.

The thing uncoiled itself and glared at West with an eye of fishy hatred, purred with lusty venom and slithered out of sight.

Across the table Louis Nevin apologized. "The damn things keep sneaking through all the time. I suppose, Mr. West, you have trouble with them, too."

"We tried rat traps," said Cartwright, "but they were too smart for that. So we get along with them the best we can."

West laughed to cover momentary confusion, but he found Nevin's eyes upon him.

"Annabelle," he said, "is the only one that ever bothered me."

"You're lucky," Nevin told him. "They get to be pests. There is one of them that insists on sleeping with me."

"Where's Belden?" Cartwright asked.

"He ate early," explained Nevin. "Said there were a few things he wanted to get done. Asked to be excused."

He said to West, "James Belden. Perhaps you've heard of him."

West nodded.

He pulled back his chair, started to sit down, then jerked erect.

A woman had appeared in the doorway, a woman with violet eyes and platinum hair and wrapped in an ermine opera cloak. She moved forward and the light from the flaring tapers fell across her face. West stiffened at the sight, felt the blood run cold as ice within his veins.

For the face was not a woman's face. It was like a furry skull, like a moth's face that had attempted to turn human and had stuck halfway.

Down at the end of the table, Cartwright was chuckling.

"You recognize her, Mr. West?"

West clutched the back of his chair so hard that his knuckles suddenly were white.

"Of course I do," he said. "The White Singer. But how did you bring her here?"

"So that's what they call her back on Earth," said Nevin.

"But her face," insisted West. "What's happened to her face?"

"There were two of them," said Nevin. "One of them we sent to Earth. We had to fix her up a bit. Plastic surgery, you know."

"She sings," said Cartwright.

"Yes, I know," said West. "I've heard her sing. Or, at least the other one... the one you sent to Earth with the made-over face. She's driven practically everything else off the air. All the networks carry her."

Cartwright sighed. "I should like to hear her back on Earth," he said. "She would sing differently there, you know, than she sang here."

"They sing," interrupted Nevin, "only as they feel."

"Firelight on the wall," said Cartwright, "and she'd sing like firelight on the wall. Or the smell of lilacs in an April rain and her music would be like the perfume of lilacs and the mist of rain along the garden path."

"We don't have rain or lilacs here," said Nevin and he looked, for a moment, as if he were going to weep.

Crazy, thought West. Crazy as a pair of bedbugs. Crazy as the man who'd drunk himself to death out on Pluto's moon.

And yet, perhaps not so crazy.

"They have no mind," said Cartwright. "That is, no mind to speak of. Just a



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bundle of nervous reactions, probably without the type of sensory perceptions that we have, but more than likely with other totally different sensory perceptions to make up for it. Sensitive things. Music to them is an expression of sensory impressions. They can't help the way they sing any more than a moth can help killing himself against a candle-flame. And they're naturally telepathic. They pick up thoughts and pass them along. Retain none of the thought, you understand, just pass it along. Like old fashioned telephone wires. Thoughts that listeners, under the spell of music, would pick up and accept."

"And the beauty of it is," said Nevin, "is that if a listener ever became conscious of those thoughts afterward and wondered about them, he would be convinced that they were his own, that he had had them all the time."

"Clever, eh?" asked Cartwright.

West let out his breath. "Clever, yes. I didn't think you fellows had it in you."

West wanted to shiver and found he couldn't and the shiver built up and up until it seemed his tautened nerves would snap.

Cartwright was speaking. "So our Stella is doing all right."

"What's that?" asked West.

"Stella. The other one of them. The one with the face."

"Oh, I see," said West. "I didn't know her name was Stella. No one, in fact, knows anything about her. She suddenly appeared one night as a surprise feature on one of the networks. She was announced as a mystery singer, and then people began calling her the White Singer. She always sang in dim, blue light, you see, and no one ever saw her face too plainly, although everyone imagined, of course, that it was beautiful."

"The network made no bones about her being an alien being. She was represented as a member of a mystery race that Juston Lloyd had found in the Asteroids. You

remember Lloyd, the New York press agent."

Nevin was leaning across the table. "And the people, the government, it does not suspect?"

West shook his head. "Why should it? Your Stella is a wonder. Everyone is batty over her. The newspapers went wild. The movie people—"

"And the cults?"

"The cults," said West, "are doing fine."

"And you?" asked Cartwright and in the man's rumbling voice West felt the challenge.

"I found out," he said, "I came here to get cut in."

"You know exactly what you are asking?"

"I do," said West, wishing that he did.

"A new philosophy," said Cartwright. "A new concept of life. New paths for progress. Secrets the human race never has suspected. Remaking the human civilization almost overnight."

"And you," said West, "right at the center, pulling all the strings."

"So," said Cartwright.

"I want a few to pull myself."

Nevin held up his hand. "Just a minute, Mr. West. We would like to know just how—"

Cartwright laughed at him. "Forget it, Louis. He knew about your painting. He had Annabelle. Where do you suppose he found out?"

"But—but—" said Nevin.

"Maybe he didn't use a painting," Cartwright declared. "Maybe he used other methods. After all, there are others, you know. Thousands of years ago men knew of the place we found. Mu, probably. Atlantis. Some other forgotten civilization. Just the fact that West had Annabelle is enough for me. He must have been there."

West smiled, relieved. "I used other methods," he told them.

CHAPTER THREE

The Painting

A ROBOT came in, wheeling a tray with steaming dishes.

"Let's sit down," suggested Nevin.

"Just one thing," asked West. "How did you get Stella back to Earth? None of you could have taken her. You'd have been recognized."

Cartwright chuckled. "Robertson," he said. "We had one ship and he slipped out. As to the recognition, Belden is our physician. He also, if you remember, is a plastic surgeon of no mean ability."

"He did the job," said Nevin, "for both Robertson and Stella."

"Nearly skinned us alive," grumbled Cartwright, "to get enough to do the work. I'll always think that he took more than he really needed, just for spite. He's a moody beggar."

Nevin changed the subject. "Shall we have Rosie sit with us?"

"Rosie?" asked West.

"Rosie is Stella's sister. We don't know the exact relationship, but we call her that for convenience."

"There are times," explained Cartwright, "when we forget her face and let her sit at the table's head, as if she were one of us. As if she were our hostess. She looks remarkably like a woman, you know. Those wings of hers are like an ermine cape, and that platinum hair. She lends something to the table... a sort of—"

"An illusion of gentility," said Nevin.

"Perhaps we'd better not tonight," decided Cartwright. "Mr. West is not used to her. After he's been here awhile—"

He stopped and looked aghast.

"We've forgotten something," he announced.

He rose and strode around the table to the imitation fireplace and took down a bottle that stood on the mantelpiece—a

bottle with a black silk bow tied around its neck. Ceremoniously, he set it in the center of the table, beside the bowl of fruit.

"It's a little joke we have," said Nevin.

"Scarcely a joke," contradicted Cartwright.

West looked puzzled. "A bottle of whisky?"

"But a special bottle," Cartwright said. "A very special bottle. Back in the old days we formed a last man's club, jokingly. This bottle was to be the one the last man would drink. It made us feel so adventuresome and brave and we laughed about it while we labored to find hormones. For, you see, none of us thought it would ever come to pass."

"But now," said Nevin, "there are only three of us."

"You are wrong," Cartwright reminded him. "There are four."

Both of them looked at West.

"Of course," decided Nevin. "There are four of us."

Cartwright spread the napkin in his lap. "Perhaps, Louis, we might as well let Mr. West see the painting."

Nevin hesitated. "I'm not quite satisfied, Cartwright..."

Cartwright clucked his tongue. "You're too suspicious, Louis. He had the creature, didn't he? He knew about your painting. There was only one way that he could have learned."

Nevin considered. "I suppose you're right," he said.

"And if Mr. West should, by any chance, turn out to be an impostor," said Cartwright, cheerfully, "we can always take the proper steps."

Nevin said to West: "I hope you understand."

"Perfectly," said West.

"We must be very careful," Nevin pointed out. "So few would understand."

"So very few," said West.

Nevin stepped across the room and

pulled a cord that hung along the wall. One of the tapestries rolled smoothly back, fold on heavy fold. West, watching, held his breath at what he saw.

A tree stood in the foreground, laden with golden fruit, fruit that looked exactly like some of that in the bowl upon the table. As if someone had just stepped into the painting and picked it fresh for dinner.

Under the tree ran a path, coming up to the very edge of the canvas in such detail that even the tiny pebbles strewn upon it were clear to the eye. And from the tree the path ran back against a sweep of background, climbing into wooded hills.

For the flicker of a passing second, West could have sworn that he heard the whisper of wind in the leaves of the fruit-laden tree, that he saw the leaves tremble in the wind, that he smelled the fragrance of little flowers that bloomed along the path.

"Well, Mr. West?" Nevin asked, triumphantly.

"Why," said West, ears still cocked for the sound of wind in leaves again. "Why, it almost seems as if one could step over and walk straight down that path."

Nevin sucked in his breath with a sound that was neither gasp nor sigh, but somewhere in between. Down at the end of the table, Cartwright was choking on his wine, chuckling laughter bubbling out between his lips despite all his efforts to keep it bottled up.

"Nevin," asked West, "have you ever thought of making another painting?"

"Perhaps," said Nevin. "Why do you ask?"

West smiled. Through his brain words were drumming, words that he remembered, words a man had whispered just before he died.

"I was just thinking," said West, "of what might happen if you should paint the wrong place sometime."

"By Lord," yelled Cartwright, "he's

got you there, Nevin. The exact words I've been telling you."

Nevin started to rise from the table, and even as he did the rustling whisper of music filled the room. Music that relaxed Nevin's hands from their grip upon the table's edge, music that swept the sudden chill from between West's shoulderblades.

Music that told of keen-toothed space and the blaze of stars. Music that had the whisper of rockets and the quietness of the void and the somber arches of eternal night.

Rosie was singing.

WEST sat on the edge of his bed and knew that he had been lucky to break away before there could be more questions asked. So far, he was certain, he'd answered those they asked without arousing too much suspicion, but the longer a thing like that went on the more likely a man was to make some slight mistake.

Now he would have time to think, time to try to untangle and put together some of the facts as they now appeared.

One of the minor monstrosities that infested the place climbed the bedpost and perched upon it, wrapping its long tail about it many times. It chittered at West and West looked at it and shuddered, wondering if it were making a face at him or if it really looked that way.

These slithery, chittering things... he'd heard of them somewhere before. He knew that. He'd even seen pictures of them at some time. Some other time and place, very long ago. Things like Annabelle and the creature Cartwright had dumped off the chair and the little satanic being that perched upon the bedstead.

That was funny, the thing Nevin had said about them... *they keep sneaking through*... not sneaking in, but through.

Nothing added up. Not even Nevin and Cartwright. For there was about them

some subtle tinge of character not human in its texture.

They had been working with hormones when something had happened that occasioned the warning sent to Earth. Or had there been a warning? Had the warning been a fake? Was there something going on here the Solar government didn't want anyone to know?

Why had they sent Stella to Earth? Why were they so pleased that she was so well received? What was it Nevin had asked. . . and *the government, it does not suspect?* Why should the government suspect? What was there for it to suspect? Just a mindless creature that sang like the bells of heaven.

That hormone business, now. Hormones did funny things to people.

I should know, said West, talking to himself.

A little faster and a little quicker. A mental shortcut here and there. And you scarcely know, yourself, that you are any different. That's how the race develops. A mutation here and another there and in a thousand years or two a certain percentage of the race is not what the race had been a thousand years before.

Maybe it was a mutation back in the Old Stone Age who struck two flints together and made himself a fire. Maybe another mutant who dreamed up a wheel and took a stoneboat and changed it to a wagon.

Slowly, he said, it would have to be slowly. Just a little at a time. For if it were too much, if it were noticeable, the other humans would kill off each mutation as it became apparent. For the human race cannot tolerate divergence from the norm, even though mutation is the process by which the race develops.

The race doesn't kill the mutants any more. It confines them to mental institutions or it forces them into such dead-ends of expression as art or music, or it finds nice friendly exiles for them, where they

will be comfortable and have a job to do and where, the normal humans hope, they'll never know what they are.

It's harder to be different now, he thought, harder to be a mutant and escape detection, what with the medical boards and the psychiatrists and all the other scientific mumbo-jumbo the humans have set up to guard their peace of mind.

Five hundred years ago, thought West, they would not have found me out. Five hundred years ago I might not have realized the fact myself.

Controlled mutation? Now that was something different. That was the thing the government had in mind when it sent the commission here to Pluto, taking advantage of the cold conditions to develop hormones that might mutate the race. Hormones that might make a better race, that might develop latent talents or even add entirely new characteristics calculated to bring out the best that was in humanity.

Controlled mutations, those were all right. It was only the wild mutations that the government would fear.

What if the members of the commission had developed a hormone and tried it on themselves?

His thought stopped short, pleased with the idea, with the possible solution.

Upon the bedpost the little monstrosity fingered its mouth, slobbering gleefully.

A knock came on the door.

"Come in," called West.

The door opened and a man came in.

"I'm Belden," said the man. "Jim Belden. They told me you were here."

"I'm glad to know you, Belden."

"What's the game?" asked Belden.

"No game," said West.

"You got those two downstairs sold on you," Belden said. "They think you're another great mind that has discovered the outside."

"So they do," said West. "I'm very glad to know it."

"They pointed out Annabelle to me,"

said Belden. "Said that was proof you were one of us. But I recognized Anna-belle. They didn't, but I did. She's the one that Darling took along. You got her from Darling."

WEST stayed silent. There was no use in playing innocent with Belden, for Belden had guessed too close to the truth.

Belden lowered his voice. "You have the same hunch as I have. You figure Darling's hormone is worth more than all this mummery going on downstairs. And you're here to find it. I told Nevin that Darling's hormone was the thing for us to find instead of messing around outside, but he didn't think so. After we took Darling to the moon, Nevin smashed the ship's controls. He was afraid I might get away, you see. He didn't trust me and he couldn't afford to let me get away."

"I'll trade with you," West told him quietly.

"We'll go to the moon in your ship and see Darling," said Belden. "We'll beat it out of him."

West grinned wryly. "Darling's dead," he said.

"Did you search the hut?" asked Belden.

"Of course not. Why should I have searched it?"

"It's there, then," said Belden, grimly. "Hidden in the hut somewhere. I've turned this place upside down and I'm sure it isn't here. Neither the formula nor the hormones themselves. Not unless Darling was trickier than I thought he was."

"You know what this hormone is," said West smoothly, trying to make it sound as if he himself might know it.

"No," said Belden shortly. "Darling didn't trust us. He was angry at what Nevin was trying to do. And once he made a crack that the man who had it could rule the Solar System. Darling

wasn't kidding, West. He knew more about hormones than all the rest of us put together."

"Seems to me," West said drily, "that you would have wanted to keep a man like that here. You certainly could have used him."

"Nevin again," Belden told him. "Darling wouldn't go along with the program that Nevin planned. Even threatened to expose him if he ever had the chance. Nevin wanted to kill him, but Cartwright thought up a joke...he's jovial, Cartwright is."

"I've noticed that," said West.

"Cartwright thought up the exile business," Belden said. "Offered Darling any one thing he wished to take along. One thing, you understand. Just one thing. That's where the joke came in. Cartwright expected Darling to go through agonies trying to make up his mind. But there wasn't a moment's hesitation. Darling took the whisky."

"He drank himself to death," said West.

"Darling wasn't a drinking man," Belden told him, sharply.

"It was suicide," said West. "Darling took you fellows down the line, neatly, all the way. He was away ahead of you."

A soft sound like the brushing of a bird's wing swung West around.

Rosie was coming through the door, her wings half-raised, exposing the hideousness of the furry, splotched body beneath the furry, death's-head face.

"No!" screamed Belden. "No! I wasn't going to do anything. I wasn't—"

He backed away, arms outthrust to ward off the thing that walked toward him, mouth still working, but no sound coming out.

Rosie brushed West to one side with a flip of a furry wing and then the wings spread wider and shielded Belden from West's view. The wings clapped shut and from behind them came the muffled,

scream of the man. Then nothing; silence.

West's hand dropped to the holster and his gun came sliding out. His thumb slammed down the activator and the gun purred like a well-contented cat.

The ermine of Rosie's wings turned black and she crumpled to the floor. A sickening odor filled the room.

"Belden!" cried West. He leaped forward, kicked the charred Rosie to one side. Belden lay on the floor and West turned away retching.

For a moment West stood in indecision, then swiftly he knew what he must do.

Showdown. He had hoped that it could be put off a little longer, until he knew a little more, but the incident of Belden and Rosie had settled it. There was nothing else to do.

He strode through the door and down the winding staircase toward the darkened room below.

The painting, he saw, was lighted... lighted as if from within itself. As if the source of light lay within the painting, as if some other sun shone upon the landscape that lay upon the canvas. The picture was lighted, but the rest of the room was dark and the light did not come out of the painting, but stayed there, imprisoned in the canvas.

Something scuttled between West's feet and scuttered down the stairs. It squeaked and its claws beat a tattoo on the steps.

As West reached the bottom of the stairway a voice came out of the darkness:

"Are you looking for something, Mr. West?"

"Yes, Cartwright," said West. "I am looking for you."

"You must not be too concerned with what Rosie did," Cartwright said. "Don't let it upset you. Belden had it coming to him for a long time. He was scarcely one of us, really, never one of us. He pretended to go along with us because it was the only way that he could save his life.

And life is such a small thing to consider. Don't you think so, Mr. West?"

CHAPTER FOUR

The Last Man

WEST stood silently at the bottom of the stairs. The room was too dark to see anything, but the voice was coming from somewhere near the table's end, close to the lighted painting.

I may have to kill him, West was thinking, and I must know where he is. For the first shot has to do it, there'll be no time for a second.

"Rosie had no mind," the voice said out in the darkness. "That is, no mind to speak of. But she was telepathic. Her brain picked up thoughts and passed them on. And she could obey simple commands. Very simple commands. And killing a man is so simple, Mr. West."

"Rosie stood here beside me and I knew every word that you and Belden said. I did not blame you, West, for you had no way of knowing what you did. But I did blame Belden and I sent Rosie up to get him.

"There's only one thing, West, that I hold against you. You should not have killed Rosie. That was a great mistake, West, a very great mistake."

"It was no mistake," said West. "I did it on purpose."

"Take it easy, Mr. West," said Cartwright. "Don't do anything that might make me pull the trigger. Because I have a gun on you. Dead center on you, West, and I never miss."

"I'll give you odds," said West, "that I can get you before you can pull the trigger."

"Now, Mr. West," said Cartwright, "let's not get hot-headed about this. Sure, you pulled a fast one on us. You tried to muscle in and you almost sold us, although eventually we would have tripped

you up. And I admire your guts. Maybe we can work it out so no one will get killed."

"Start talking," West told him.

"It was too bad about Rosie," said Cartwright, "and I really hold that against you, West, for we could have used Rosie to good advantage. But after all, the work is started on the other planets and we still have Stella. Our students are well grounded...they can get along without instructions for a little while and maybe by the time we need to get in contact with them again we can find another one to replace our Rosie."

"Quit wandering around," said West. "Let's hear what you have in mind."

"Well," said Cartwright, "we're getting awfully short-handed. Belden's dead and Darling's dead and if Robertson isn't dead by now he will be very shortly. For after he took Stella to Earth, he tried to desert, tried to run away. And that would never do, of course. He might tell folks about us and we can't let anyone do that. For we are dead, you see..."

He chuckled, the chuckle rolling through the darkness.

"It was a masterpiece, West, that broadcast. I was the last man alive and I told them what had happened. I told them the spacetime continuum had ruptured and things were coming through. And I gurgled...I gurgled just before I died."

"You didn't really die, of course," West said, innocently.

"Hell, no. But they think I did. And they still wake up screaming, thinking how I must have died."

Ham, thought West. Pure, unadulterated ham. A jokster who would maroon a man to die on a lonely moon. A man who held a gun in his fist while he bragged about the things he'd done...about how he had outwitted Earth.

"You see," said Cartwright, "I had to make them believe that it really happened. I had to make it so horrible that the

government would never make it public, so horrible they'd close the planet with an iron-tight ban."

"You had to be alone," said West.

"That's right, West. We had to be alone."

"Well," said West. "You've almost got it now. There's only two of you alive."

"The two of us," Cartwright said, "and you."

"You forget, Cartwright," said West.

"You're going to kill me. You've got a gun pointed at me and you're all set to pull the trigger."

"Not necessarily," said Cartwright. "We might make a deal."

I've got him now, thought West. I know exactly where he is. I can't see him, but I know where he is. And the pay-off is in a minute. It'll be one of us or the other.

"You aren't much use to us," said Cartwright, "but we might need you later. You remember Langdon?"

"The one that got lost," said West.

Cartwright chuckled. "That's it, West. But he wasn't lost. We gave him away. You see there was a—a—well, something, that could use him for a pet and so we made it a present of Langdon."

He chuckled again. "Langdon didn't like the idea too well, but what were we to do?"

"Cartwright," West said, evenly, "I'm going for my gun."

"What's that—" said Cartwright, but the other words were blotted out by the hissing of his gun, firing even as he talked.

The beam hissed into the wall at the foot of the staircase, a spot that had been covered only a split second before by West's head.

But West had dropped to a crouch almost as he spoke and now his own gun was in his fist, tilting up, solid in his hand. His thumb pressed the activator and then slid off.

Something dragged itself with heavy

thumps across the floor and in the stillness between the bumps, West heard the rasp of heavy breaths.

"Damn you, West," said Cartwright. "Damn you..."

"It's an old trick, Cartwright," said West, "that business of talking to a man just before you kill him. Throwing him off guard, practically ambushing him."

Came a sound of cloth dragging over cloth, the whistling of painful breath, the thump of knees and elbows on the floor,

Then there was silence.

And a moment later something in some far corner squeaked and ran on pattering, rat-sounding feet. Then the silence again.

The rat-feet were still, but there was another sound, a faint shout as if someone far away were shouting...from somewhere outside the building, from somewhere outside...from outside.

West crouched close against the floor, huddling there, the muzzle of the gun resting on the carpet.

Outside...outside...outside...

The words hammered in his head.

Outside of what, he asked, but he knew the answer now. He knew where he had seen the picture of the thing that had slept in the chair and the other thing that squatted on the bedpost. And he knew the sound of chirping and of chittering and of running feet.

Outside...outside...outside...

Outside this world, of course.

HE RAISED his head and looked at the painting, and the tree still glowed softly with its inner light, and from within it came a sound, a faint thudding sound, the sound of running feet.

The shout came again and the man was running down the path inside the painting. A man who ran and waved his arms and shouted.

The man was Nevin.

Nevin was in the painting, running down the path, his padding feet raising

little puffs of dust along the pebbled path.

West raised the pistol and his hand was trembling so that the muzzle weaved back and forth and then described a circle.

"Buck fever," said West.

He said it through chattering teeth.

For now he knew...no he knew the answer.

He put up his other hand and grasped the wrist of the hand that held the gun and the muzzle steadied. West gritted his teeth together to stop their chattering.

His thumb went down against the activator and held it there and the flame from the gun's muzzle spat out and mushroomed upon the painting. Mushroomed until the entire canvas was a maelstrom of blue brilliance that hissed and roared and licked with hungry tongues.

Slowly the tree ran together, as if one's eyes might have blurred and gone slightly out of focus. The landscape dimmed and jiggled and ran in little wavering lines. And through the wavering lines could be seen a twisted and distorted man whose mouth seemed open in a howl of rage. But there was no sound of howling, just the purring of the gun.

With a tired little puff the mushrooming brilliance and the painting were gone and the gun's pencil of flame was hissing through an empty steel frame still filled with tiny glowing wires, spattering against the wall behind it.

West lifted his thumb and silence clamped down upon him, clamped down and held the room...as it held leagues of space stretching on all sides.

"No painting," said West.

An echo seemed to run all around the room.

"No painting," the echo said, but West knew it was no echo, just his brain clicking off endlessly the words his lips had said.

"No painting," the echo said, but West other world, some other place, some *otherwhere*. A machine that broke down the

spacetime continuum or whatever it was that separated Man's universe from other, stranger universes.

No wonder the fruit upon the tree had looked like the fruit upon the table. No wonder he had thought that he heard the wind in the leaves.

West stood up and moved to the wall behind him. He found a tumbler and thumbed it up and the lights came on.

In the light the smashed other-world machine was a sagging piece of wreckage. Cartwright's body lay in the center of the room. A chittering thing ran across the floor and ducked into the dark beneath a table. A grinning face peeped out from behind a chair and squalled at West in cold-boned savagery.

And it was nothing new, for he had seen those faces before. Pictures of them in old books and in magazines that published tales of soul-shaking horror, tales of things that come from beyond, of entities that broke in from outside.

Just tales to send one shivering to bed. Just stories that should not be read at midnight. Stories that made one a little nervous when a tree squeaked in the wind outside the window or the rain walked along the shingles.

It had taken the wizardry of the Solar System's best band of scientists to open the door that led into the world beyond.

And yet people in unknown, savage ages had talked of things like these . . . of goblin and incubus and imp. Perhaps men in Atlantis might have found the way, even as Nevin and Cartwright had found the way. In that long-gone day letting loose upon the world a flood of things that for ages after had lived in chimney-corner stories to chill one to the marrow.

And the pictures he had seen?

Ancestral memory, perhaps. Or a weird imaging that happened to be true. Or had the writers of those stories, the painters of those pictures . . .

West shuddered from the thought.

What was it Cartwright had said? *The work is started on the other planets.*

The work of passing along the knowledge, the principles, the psychology of the alien things of *otherwhere*. Education by remote control . . . involuntary education. Stella, the telepathic Stella, singing back on Earth, darling of the airways. And she was an agent for these things . . . she passed along the knowledge and a man would think it was his own.

That was it, of course, the thing that Nevin and Cartwright had planned. Remake the world, they'd said. Sitting out on Pluto and pulling strings that would remake the world.

Superstitions once. Hard facts now. Stories once to make the blood run cold. And now—

With the source dried up, with the screen empty, with the Pluto gang wiped out, the cults would die and Stella would sing on, but there would come a time when the listeners would turn away from Stella, when her novelty wore off, when the strangeness and the alienness of her had lost their appeal.

The Solar System would go on thinking imp and incubus were no more than shuddery imagery from the days when men crouched in caves and saw a supernatural threat in every moving shadow.

But it had been a narrow squeak.

From a dark corner a thing mouthed at West in a shrill sing-song of hate.

SO THIS was it, thought West.

Here he was, at the end of the Solar System's trail, in an empty house. And it was, finally, as he had hoped it would be. No one around. A storehouse full of food. Adequate shelter. A shop where he could work. A place guarded by the patrol against unwelcome callers.

Just the place for a man who might be hiding. Just the place for a fugitive from the human race.

There were things to do . . . later on. Two bodies to be given burial. A screen to be cleaned up and thrown on a junk heap. A few chattering things to be hunted down and killed.

Then he could settle down.

There were robots, of course. One had brought in the dinner.

Later on, he said.

But there was something else to do . . . something to do immediately, if he could just remember.

He stood and looked around the room, cataloguing its contents.

Chairs, drapes, a desk, the table, the imitation fireplace. . .

That was it, the fireplace.

He walked across the room to stand in front of it. Reaching up, he took down the bottle from the mantel, the bottle with the black silk bow tied around its neck. The bottle for the last man's club.

And he was the last man, there was no doubt of it. The very last of all.

He had not been in the pact, of course, but he would carry out the pact. It was melodrama, undoubtedly, but there are times, he told himself, when a little melodrama may be excusable.

He uncorked the bottle and swung around to face the room. He raised the bottle in salute—salute to the gaping, blackened frame that had held the painting, to the dead man on the floor, to the thing that mewled in a far, dark corner.

He tried to think of a word to say, but couldn't. And there had to be a word to say, there simply had to be.

"Mud in your eye," he said and it wasn't any good, but it would have to do.

He put the bottle to his lips and tipped it up and tilted back his head.

Gagging, he snatched the bottle from his lips.

It wasn't whisky and it was awful. It was gall and vinegar and quinine, all rolled into one. It was a brew straight from the

Pit. It was all the bad medicine he had taken as a boy, it was sulphur and molasses, it was castor oil, it was—

"Good God," said Frederick West.

For suddenly he remembered the location of a knife he had lost twenty years before. He saw it where he had left it, just as plain as day.

He knew an equation he'd never known before, and what was more, he knew what it was for and how it could be used.

Unbidden, he visualized, in one comprehensive picture, just how a rocket motor worked . . . every detail, every piece, every control, like a chart laid out before his eyes.

He could capture and hold seven fence posts in his mental eye and four was the best any human ever had been able to see *mentally* before.

He whooshed out his breath to air his mouth and stared at the bottle.

Suddenly he was able to recite, word for word, the first page from a book he had read ten years ago.

"The hormones," he whispered. "Darling's hormones!"

Hormones that did something to his brain. Speeded it up, made it work better, made more of it work than had ever worked before. Made it think cleaner and clearer than it had ever thought before.

"Good Lord," he said.

A head start to begin with. And now this!

The man who has it could rule the Solar System. That was what Belden had said about it.

Belden had hunted for it. Had torn this place apart. And Darling had hunted for it, too. Darling, who had thought he had it, who had played a trick on Nevin and Cartwright so he could be sure he had it, who had drank himself to death trying to find the bottle he had it in.

And all these years the hormones had been in this bottle on the mantel!

(Continued on page 126)

Too small for this Earth, Crispin Tyler had but one thing to trade for his soul in the deathless, angry wastes of space—and that was his—

GIFT OF DARKNESS

By
PETER REED

HIS NAME was Crispin Tyler and he had worked very hard for twenty-nine of his fifty-two years. Intersystem Metals had automatically acquired his talents through the standard screening tests, had installed him in the junior executive training program and, except for the mechanical memories of the bank of Ref-dex equipment in Personnel, had forgotten him.

There had been a long succession of desks, stretching back through twenty-nine years, and as he sat in his office, wrapped in a spell of mellow sadness that had become endemic, it was as though he could see those desks reflected in angled mirrors, stretching back into dusky shadows.

And this, of course, was the best desk of them all—styled and designed for him after the rather frighteningly brisk young lady from Office Engineering had spent two days watching him work. The communi-phones were right here, of course, and the wall screen buttons right there, and the slightest foot pressure over on that spot slid the file drawer open with greasy silent movement. Dicto-writing was made simple by the microphones set in just such a way that his normal tone reproduced the necessary letters and memos.

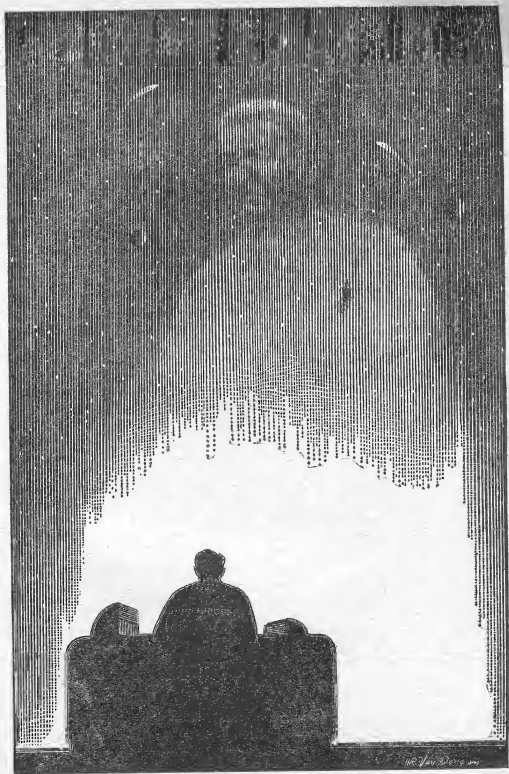
It was best not to sigh, because then the metal throat of the interrogator would say, "Repeat, please," electronically disturbed by a sound that could not be spelled.

Crispin Tyler was a small man, paunchy and soft from the office years, with a mild sweetness in the expression around his mouth, a spaniel-like defenselessness in his weak brown eyes.

He had come slowly up out of anonymity into what could be called the number six slot in the huge, convoluted operations of Intersystem, only because of a small, still, cold spot in his mind that could integrate all factors of a policy problem and come up with the right solution—for other men to put into effect.

Let Crispin Tyler take a shot at that. Old Tyler ought to take a look at this. Here's Tyler's solution, Joe. Yes, I know

On Alpha Crucis 10 the blackened dredges were towed to a forgotten shore and dismantled. . . . On Zeta Tauri 7 humans were slowly eliminated from the work crews. . . .



how rough it's going to be, but have you ever known him to be wrong?

Decisions over the years. On Alpha Crusis 10 the blackened dredges on the dead seas were towed to a forgotten shore and dismantled. On Zeta Tauri 7 humans were slowly eliminated from the work crews, until at last the bitter suns threw only the divergent shadows of the Claw People against the blue clay, as they marched to board the elevators that would drop them seven thousand meters into the torn bowels of the planet. The pitchblende deposits on Gamma Aquilae 3 were abandoned and all the planets within two parsecs of mighty Antares were resurveyed.

He was a poniard scabbarded in gelatine, an axe blade with a haft of feathers, a projectile robbed of its charge.

For twenty-seven of the twenty-nine years there had been the hope—the delusion—that one day there would be authority and responsibility, and with it would come the flowering of latent abilities to be a leader of men; a hope that the brown eyes would gleam, the soft voice harden, the warm fatty fist pound a table with authority.

... she had been so slim and young and unaware. When they were together she wore low shoes and he stood very erect, gaining thereby a half-inch of height. But now he could look at her firm tallness and it was hard to believe that she had been pliant in his arms, had borne him a golden daughter, a strong-muscled son. He was still certain of her love, but he knew that it was more tinged with pity than respect, whereas one of his dominant emotions toward her was pure awe. ...

Desperate loneliness in the midst of life. His mother had called him Cris. No one else had ever done so. Always on the edge of groups, trying to join in with a shy smile, with a funny remark that no one ever seemed to hear. Secretly he had taken the course from that doctor, the one

who promised to develop dominance. But no one had ever noticed any difference.

He was the man who could be at the club, and the steward would not know he was there. He could watch the games and never be invited to join. Once he memorized four stories that he thought were quite funny. It was a full week before he had a chance to tell the first one. They listened politely, laughed politely, went back to the game. He walked out with the smile stiff on his lips. That smile was such a constant. Smile and people will like you. Be a good listener. Ask people about their problems. He had been smiling for twenty years.

It was in not having a friend—one true friend. He wanted a friend he could sit with and talk to and listen to. He felt, without egotism, that he had certain things worth saying. In childhood there had been a friend. Billy. But of course Billy had been invisible to everyone else. Crispin Tyler had never told anyone about Billy.

There was some joy, of course, in the hobbies. In his study were the cases containing first flight spacemail covers to all colonized planets, including that extremely rare and valuable one dating back to 1959, a letter sent from New Mexico to New York via the moon. And there was the portfolio of water colors, done with neat precision. And the boxes of uncut gems.

But the golden daughter and the strong son and the statuesque wife had a way of taking the flavor and dignity out of such pursuits.

Your father's upstairs playing with those envelopes again. Pop's daubing up some more pictures, Janie. Yes, dear, I suppose it is quite interesting, if you understand all about gems.

He knew they loved him, and he loved them in turn.

But there was not one friend.

No one.

Ever.

VALENTINE MCGUIRE was the head of Intersystem Metals. It was correctly reported that once, in fevered speech, he had split a mahogany board table with his fist.

His voice was lute, French horn, tempest and summer breeze. The face of a character actor, clown, Viking and soldier. He played on the minds and emotions of men with all the ruthlessness of hypersonics. He won at poker, bribed the air police, and married two actresses and a female poet called the most beautiful woman in the known universe—one after the other, of course. His grey hair was thick and alive and his laugh smashed against distant walls like ripe fruit.

"Crispin," said Valentine McGuire, "no man has been more valuable to this great organization."

"I'm . . . thank you."

"I am the figurehead. I am the man the public knows. It is your keen intelligence that has brought us through trying times, Crispin."

"I wouldn't say—"

"You know that it is the policy of Intersystem Metals to retire all executive personnel at fifty-five, I believe." Warmth in the McGuire voice chilled a trifle.

"Yes, sir, I realize that."

"You are, of course, conversant with our current problem on the three planets of Beta Virginis and the four planets of Delta Virginis in the Spica Mines Subsidary."

"Of course, sir. That's been a bad one for over ten years, with the way—"

"Exactly, Tyler. Exactly! If we are to maintain our just and proper share of the universe market in Spica-chrome, the most valuable known metal, an end must be made to the infamous political maneuverings of that upstart competitor, Transpace. They have succeeded in setting up such a preferential tax structure in the whole Virginis System that, at the current moment, we are delivering Spica-

chrome to forty-three percent of customer planets at a loss. This is such a large operation that we cannot afford to handle Spica-chrome as a marginal product. I have your last report here. I'm sorry, Tyler, but I'm not at all satisfied with your recommendations."

"I'm sorry, sir, but—"

"I know, I know. Man, I can read. You state clearly that there are too many unknowns in the equation." Valentine McGuire leaned back and smiled like a large sleepy cat. "Crispin, how would you like to take a little run out there and equate those unknowns?"

There was a roaring in Crispin Tyler's ears. The room shifted abruptly out of focus and slid slowly back. "This is—it's—"

"You have every right in the world to refuse, of course. It's a three-year trip each way. Add six months of investigation time. It will take you four years over retirement age. It's, frankly, a hell of a lot to ask a man. You can say no, and I won't blame you. But I do think I have the right to tell you that the eventual future of this great enterprise depends on your answer."

"I might not pass the—"

"Physical tests? When you took your semi-annual physical four months ago I instructed them to give you the additional space tests. You came through with flying colors. You're in good shape, Tyler. Naturally we will arrange a very ample tax-free bonus and pay you the usual double salary for all space time. It ought to add up to a very respectable estate for your children."

"If I could think it over, Mr. McGuire, and then—"

"Believe me, there's nothing I would like better than to give you time to think this all over. But I'm afraid I'll have to have your answer right now. I have taken the liberty, and forgive me if I offend you, of discussing this matter with Mrs. Tyler.

Charming woman. Charming. She was upset, of course. You're a very lucky man, Crispin. She could not, of course, leave two children of seventeen and nineteen alone, and six and a half years would be too long a time to delay the balance of their education. She wept a bit, Crispin. And she told me she would leave the decision up to you without trying to influence you in one way or the other."

Crispin Tyler felt as though the world were falling away beneath him. He held tightly to the arms of the chair. "Over six years," he said thickly. "Never been off Earth."

"A great adventure!" McGuire said. "God, how I envy you!"

"When would—"

"I have taken the liberty of booking passage for you on the *Starbelle* leaving Moonport a week from tomorrow, and another ticket on the shuttle which will get you there two hours before takeoff. You will be allowed two hundred Earth pounds of personal effects, reading material, that sort of thing. But I believe you'll find the *Starbelle* extremely well-equipped as far as amusement is concerned." McGuire looked at him with an odd expression, chuckled, and said, "I'm certain you'll have a most enjoyable voyage."

"Well, it looks like—"

Valentine McGuire came quickly around his desk, shook hands, propelled Crispin toward the office door. "Can't tell you how much I appreciate this, old man, personally and for the sake of this great corporation. You'll never regret it. Every step is being taken to assure your—eh—happiness."

Crispin Tyler found himself sitting in his own office with very little idea of how he had got there. He was very faintly nauseated and his heart thudded with uncomfortable force.

"I won't go," he said softly. It was the last protest he made.

THE SITUATION was not disagreeable—to sit at the head of the table and be the subject of family conversation, the object of quick, surprised little glances from Janie, Cliff and Florence.

"I just can't believe it. I can't!" Florence said. Her eyes filled with tears.

"Now, now," he said. "Someone has to go. When I get back the kids will be on their own. We'll have the rest of our lives, doing all the things we've always wanted to do."

Florence used a corner of her napkin to blot up the tears, and she smiled bravely. She collected the dishes from the main course and pushed them into the disposal chute, opened the neighboring cabinet and took out the dessert which had just arrived.

"Gosh!" Cliff said softly. "Two hundred thirty light years. Say, they got everything on those long cruise ships! Three-way video, tournaments, parties, hostesses, hobby shops, gyms—"

"You sound like you want to go along," Crispin said, smiling.

"Would I? Man!"

"I know you," Janie said. "You'd like it for a week and then you'd want to get off."

"Anything I don't like, it's a smart-aleck girl."

"Children!" Florence snapped. "At least make your father's last week here as pleasant as possible."

Crispin had half hoped that they would all spend the evening together. But Cliff was needed on the school Kell-ball team and Janie had accepted, a week before, a dance invitation that she couldn't break, and Florence had to go later to a committee meeting of the League of Women Voters.

After the children had gone Florence came to him in the library as he was standing in front of the heat screen and embraced him. Crispin realized that he

should appreciate it and enjoy it, but there was something about the abundance of her upper arms and her bosom, her lilac perfume and the warmth of her that made him feel smothered. He endured it patiently, repressing the instinct to fight his way out into the open.

"I shall miss you, Crispin," she whispered.

"Um. And I'll miss you, of course."

"But believe me, Crispin, you *will* have a good voyage. I know you will. I promise it."

"How can you promise that?" he asked.

She laughed coyly. "Never you mind, now, Mister Man. I just know you will."

He spent the evening rearranging the stamp collection, finishing up little odds and ends of mounting that he had been putting off for some time. In the middle of the night he had a series of dreams about falling. Each one woke him up, and each one left him bathed in sweat. Florence's door was ajar and he could hear, faintly, the soft wet rattle of her breathing. Janie came home late. Her escort laughed in the lower hall. Crispin realized that by the time he returned she could be married and have children. In fact, it was a distinct probability.

He was alone and afraid in the night.

Very alone.

As always.

THE ELEVATOR lifted slowly up the shining flank of the shuttle. He lost them for a moment and then saw them again, apart from the others. Three small dwindling figures. Their mouths were saying, "Good-by! Good-by! Good-by!" Their arms waved. In a pagan culture the dead were placed on barges, and they floated away down the river. Or was it out on the tide? No matter.

Three dots below. Wife and seed of the womb. Guaranteed immortality. Warm flesh waving and wet mouths saying,

"Good-by! Good-by, Crispin Tyler. Good-by, husband and father and provider and soft mild little man who was a part of our lives and his suits never fitted right and he wasn't good at games and he always seemed just a little oddly out of focus to us and for some mysterious things he did each day they paid him astonishingly well. Good-by."

CRISPIN TYLER spent his first week on the *Starbelle* in a suspension that was like that half-breath between life and death. He lay on his soft bed in the small, neat cabin and ate what was sent to him. He stared straight up to where he knew the rounded snout of the *Starbelle* thrust through the supercooled nothingness. There was no sound in his cabin. When he held his fingertips against the metallic wall he could sense the faintest vibration. There was no other clue to movement. Below him were other living areas, adjusted to gravitational and atmospheric conditions of various non-human passengers.

At the end of the week he arose, dressed carefully, and, with a little tremor of excitement, went to join the other passengers. It was like that first day at boarding school, the first day working for Intersystem, the first day of marriage.

He visited the pool where the artificial sunlight browned the girls and young men, the two theaters, the game rooms, the village street on the third level. He sat at a sidewalk cafe and watched the couples stroll by, arm in arm.

And slowly the sense of motion and travel was lost, and this was the world, the known world.

It was then that he realized that he was still alone.

It was during that second week while Crispin sat at his usual table at the sidewalk cafe, that a man came over shyly and said, "Would you mind awfully if I sat with you?"

"Of course not, of course not!" Crispin said, trying to get into his tone the invitation and kindness that he felt.

The stranger was apparently in his late forties, a sallow, rather undistinguished-looking man of small stature. His smile was warm, however. "Not much point in commenting on the weather, is there?" he said. "My name's George Brown, Cabin seven thirty-three."

"Why, you're a neighbor of mine! I'm in seven thirty-two right across the corridor. Crispin Tyler."

They shook hands. George frowned. "Not the Crispin Tyler from Intersystem! I *thought* you looked familiar."

"Have I met you before?" Crispin asked, surprised.

"I attended the Merton auction a year and a half ago. You overbid me on that set of Arcturus covers."

"Did I, now? You know, I paid too much for those. My wife, Florence, she thought I was crazy. I wanted 'em because they were carried on the last flight of the old *Corsair*. Had to have 'em."

George nodded. "I know what you mean. I'm a slave too. Collecting is in my blood, I guess. Stamps, covers, uncut gem stones, original woodcuts."

Crispin beamed with delight. "Say, that is a coincidence, Mr. Brown. I collect stones too. And you know? I brought a few of the really choice items along. Stones and covers. Couldn't bear not to see 'em for six and a half years. Would you like a look at them?"

"I certainly would!"

"Come on then, Mr. Brown."

"Make it George, will you?"

"If you'll call me—uh—Cris." Crispin had tried that before, with others. They would call him "Cris" once, or even twice, and then revert back to Crispin or all the way back to Mr. Tyler. But to his complete delight George called him Cris three times on the way down to the cabin, and did it with complete naturalness.

THEY had dinner together and afterward Crispin had three drinks in celebration of this new friendship. It was two over his usual limit. By Gad, this George Brown was a real fellow. Interesting, too. Going to Virginis System to set up a new population survey method for Central Census. Lonely. Had to leave his wife and kids behind too.

When Crispin awoke in the morning he realized that he had done a great deal of talking. Too much. George Brown would probably consider him a damn fool.

But to his delight George seemed glad to see him and they breakfasted together. In mid-morning George inspected the newest portfolio of watercolors and expressed his liking for them.

That evening they sat in the artificial darkness in the small park outside the theater and once again Crispin Tyler spoke aloud the thoughts and dreams that no one else had ever had time to listen to.

The happiest weeks of Crispin Tyler's life fled by. Often he was hoarse from talking. Together they discussed philosophy, galactic law, women, the history of warfare, the responsibilities of interplanetary corporations, the probable future of science and invention, the cynicism of the younger generation—and Crispin found that they were in remarkable accord on all major points.

No man is an inexhaustible well. Crispin was proud of having at last found a friend. A great measure of the self-confidence of youth had returned to him. But after seven months spent exclusively in the eager company of George Brown, Crispin Tyler began to feel a shade oppressed. He longed for one day—one whole day—of being alone with his thoughts.

But try as he might, he could not manage it. George, though sensitive in other matters, seemed impervious to even the broadest hint. And Crispin could not quite bring himself to be blunt about it.

He tried sneaking out of his cabin earlier. George would find him at breakfast, and sit down, jovial and smiling.

It almost seemed as though—Crispin shied away from the thought—as though George *had* to be with him. Odd! It was a strange sort of compulsion.

And in the eighth month of the trip the full implications of the ghastly suspicion began to dawn slowly and horribly on Crispin Tyler.

... Valentine McGuire's odd look, and his chuckle. He had said, "I'm sure you'll have a most enjoyable voyage." And what had Florence said? "Believe me, Crispin, you *will* have a good voyage. I know you will. I promise it." ...

Conversation dried in his throat and he spent long hours looking obliquely at this George Brown. They would think they were doing the best thing. Damn their motives.

The purpose grew slowly within him. It was a month in growing, and after the purpose came the plan.

On the third day of the tenth month of the voyage, on Easter morning, to be exact, Crispin Tyler expressed a desire to examine George Brown's collection of uncut gems for the third time. George Brown sat on the bed and laid out the stones. Crispin Tyler stood over him.

"Look at me, George," Crispin said.

George looked up just as Crispin Tyler swung, with every fiber of his strength, the claw hammer he had filched from one of the hobby shops.

The membrane tore. George fell forward. The hot oil gouted onto the rug, and the eyes popped out and the little silver coils rolled across the rug, onto the metal floor, tinkle, jangle, against the wall.

Crispin Tyler walked woodenly into his cabin and shut the door and called the Service Section. He said, "This is Tyler in seven thirty-two. I've made a bit of a mess in seven thirty-three across

the way. Would you mind cleaning it up for me? You may scrap the robot you find there. I—I have no further use for it."

He hung up the speaker, sat on his bed, covered his face with his hands. The tears were hot on his wrists, cooling as they ran down into his sleeves. He made thin, damp noises.

TWO weeks out from Virginis Port, Mallard Chang, the *Starbelle's* Doctor of Recreational Therapy, worked on his trip report.

He sighed and started the next case history:

"As a further example of the benefits which can accrue from the program planned for this three-year voyage, I wish to cite the case of Mr. C. T. The subject is an executive for a large interplanetary corporation and when he boarded the *Starbelle* it was immediately obvious to me that here was a repressed, neurotic, shy individual capable of constituting a problem to the Recreational Staff. I found, however, that my hands were tied, as the subject had been supplied, without his knowledge, with an Android Companion, adjusted, by relatives and business associates, no doubt, to compensate for the subject's emotional inadequacies. Since I strongly disapprove of this method of adjustment, it came as no surprise to me when I learned that, during month eleven, the subject attacked and seriously damaged the mechanism.

"Naturally, during months eleven, twelve and thirteen, many attempts were made to bring the subject out of his state of extreme depression.

"Let me point out again that the subject, though an important man in business life, had, when he boarded the *Starbelle*, an almost pathetic longing to be liked and appreciated.

"When, during the fourteenth month,
(Continued on page 127)



He felt the breath of madness touch him. . . .

SLAVE OF ETERNITY

"YOU have no choice," the patrolman said. "The Council sends for you."

He moved across the veranda of Heric's cottage, bulking dark against the sky-glow of Nyark the first city. On the slope of lawn below stood his copter, its beetle-black shell glistening faintly in the starshine.

Heric stood rigid with alarm in his doorway, still holding the book he had been reading. The night-wind ruffling his hair and the homely sounds from the kitchen where Marta prepared their evening meal made his danger doubly fantastic.

"They've found out somehow about my dreams," Heric said. "They'll put me through the adjuster and I'll come out of it—someone else. I won't go!"

He was a mild man, overseer of the cereal grain fields outside Nyark the first city, holding the confidence of his superiors and the respect of his workers. He and Marta had been happy in the quiet eddy of their isolation, until the dreams came.

The patrolman took a gleaming silver shock-cone from his belt. "I am sorry, Arnol Heric. You must come with me."

By
ROGER DEE

Stark panic made Heric drop his book and strike out wildly, smashing a fist into the officer's face. The patrolman staggered back, teetered for balance on the veranda's edge and fell heavily. The sound of his head striking the stone walkway below was as definite as the thud of a dropped melon.

Heric went down the steps and knelt to feel the man's limp wrist. There was no pulse. He put an ear to the slack lips, and there was no breath. Shock numbed him and drove his thoughts into strange, tortured channels.

"I've killed him," he said.

A sound caught his ear and he looked up to see Marta on the dark verandah above him, her face a pale oval blur with enormous, fright-widened eyes. "I didn't intend this to happen, Marta. I—I lost my head."

She came down at once and put a soft hand on his shoulder. "Of course, of course, darling. Here, let me help you."

An eye for an eye, a tooth for a tooth . . . these were the familiar laws of man—Far more fiendish was Heric's punishment—eternal life for the death he'd taken!

Together they lifted the patrolman's body into the copter's control seat, where it lolled bonelessly against the instrument panel. Heric touched a button and the machine rose and soared eastward on a random course away from Nyark the first city.

They watched, holding hands like uneasy children, until it was lost against the stars. Then they went inside to the light and warmth of their cottage.

Heric voiced the thought first: "They'll send for me again tomorrow, when he doesn't return."

He had again the ominous sensation, felt a dozen times in as many days, of being very close to understanding the strange auguries that had so troubled his sleep of late. For a moment he hovered on the brink of complete comprehension before his fearful thought recoiled, leaving him uneasy and bewildered.

When he slept the dream came more strongly than before.

THE serene globe of Earth spun below him, frightfully riven by the half-healed wounds of some ancient cataclysm. Dull seas steamed and rain fell and vegetation crept across the scars, but there was life in one place only.

There was a ruined city like a forest of standing shards, rising stark and cold against a desolate sky. A horde of silent figures poured through its streets, bent upon a myriad errands whose purposes he might have guessed but dared not—he found himself one of the throng, yet his dread of understanding hid their intent as a mist might have obscured their faces. The crowd moved always eastward, its thousand faces rapt in impossible ecstasy. His own expectancy mounted to an unbearable pitch, stifling him with the promise of total understanding. He had only to follow them and—

He awoke to find himself crouched on the cold floor of his bedroom, drenched

with perspiration and trembling violently from the strain of fighting back the monstrous concept toward which his dream had carried him.

Marta's voice was urgent in his ears. Marta's hands tugged at his arm, her breath was warm on his damp face. "Arnol, wake up! Arnol!"

For an instant he had an indescribable sense of being infinitely multiplied, as if this moment were reproduced forever, a single frame in a succession that stretched endlessly before and behind him. Then the dream tilted and swept away and he let Marta lead him, unresisting, back to bed.

For a long time he lay shivering in the darkness, his face hidden against her warm shoulder. And at last, when the tension had gone out of him, he slept again.

THEY came for him at daybreak, four burly patrolmen with Council insignia on their helmets and silver shock-cones in their hands. Heric looked back as he entered their copter to see Marta on the verandah, lovely in the soft disarray of her too-early rising, her eyes bright and blind with unshed tears.

"I'll come back," he called. "It's going to be all right!"

When the copter rose he waved at her, buoyed up unexpectedly by the ring of certainty he had managed to force into his voice. He had a last glimpse of Marta before distance and the morning mists hid her, a small, forlorn figure with raised face staring after him, her belted house-robe fluttering in the wind.

They sank through the ordered vastness of Nyark the first city, into a bustle and rush that was symbolic of the Council's will to restore Nyark—and finally Earth—to their former glory. Heric was led to a quiet chamber where the Council, in their deep crescent of seats behind the Leader's throne, awaited him.

He had seen them before only in newscasts, when it had awed him a little to

think that in their hands lay the destiny of a world in rebirth. He was surprised now to feel that their wrinkled parchment faces and thin bodies, hidden under sleeveless blue robes, lent them a futile anonymity rather than the distinction he had expected. *Why*, he thought, *they look like scrawny, earthbound birds.*

"Why am I here?" Heric demanded. Rebellion grew in him, roughening his voice. "I have broken no law, nor have I been lax in my overseeing. I protest this adjustment to what you call normalcy."

"Yet you must endure it, Arnol Heric," the Leader said. A rustle of assent whispered through the robed Council. "You should not have defied our messenger. It may be too late now."

Anger swelled Heric's demand. "What do you mean?"

His answer was a great, cloudy bubble that sprang from nowhere about him. The Council vanished behind its milky haze. There was a brief sensation of motion, and after that—nothing.

HE WAS in the void of his dreams again, imprisoned in darkness. But there was a difference—the dull globe of Earth spun faint and misty, half-seen through an obscuring curtain. A smooth, hypnotic thought-current flowed into his mind from the adjuster, commanding him, warring with the half-sensed truth that still sought his awareness.

"You are Arnol Heric, overseer of cereal plantings. You have had no disturbing dreams. Forget, Arnol Heric. There is no need for alarm. . . ."

There was a long struggle before his will fought clear, and he knew that the Leader's fear of being too late had been realized. The pitted Earth-sphere grew plain, the desolate city sharpened and drew near. He walked the thronged streets and turned his face toward the east, and this time he did not repulse the truth when it lay before him.

There was a silent room where a figure reclined laxly in a chair made massive by its crystal maze of shining coils. Two guards flanked the chair watchfully, and in it sat—

Himself.

Anger shook him like a terrible wind, without warning. It was all a monstrous farce, then—he was the center of it all, and they had hidden him in his overseer's niche to blind him to reality.

He opened his eyes in the adjuster, pushing the futile thought-current from his mind. The guards stiffened at his movement, their silver shock-cones ready.

"I know myself now," Heric said. He stood up, shaking off the web of crystal contacts from the adjuster. "And I know you. Put away your useless weapons."

They dropped their cones and stood with lowered eyes, waiting his pleasure with a deference that made his lip curl. He left the room without a backward look, knowing they would warn the Council but having no need now for secrecy.

He went down a wide-arched corridor, striding with sure step to the city's heart. He found the power source at ground level, in a vast dim cavern full of soft-purring machines. He singled out the great operations board with its master



"Wait, Arnol Heric. Do you know that we have made you immortal?"

switch that controlled the city's life—and in his path he found the Leader and his council, shielding the control from him with the massed crescent of their bodies.

"Stand back," Heric commanded.

The Council stirred uneasily, but did not break.

"Hear us out, Arnol Heric," the Leader begged. "Remember that we, being not-human, yet have human emotions. We are the end result of the robot race men created to serve them in ages past, and you are right when you suppose that we may not defy you because we are your property. But there is a thing which you do not know, hidden from you even in your dreams for your own safety. Stay your hand, Master."

The sound of Heric's laughter echoed emptily through the vast room.

"Stay my hand and let you adjust me into submission again? Let you send me back to planting wheat, drowning my identity in ignorance? I know the human race is almost dead—I know that you hide the truth from the few of us who remain because you think us doomed to extinction. You would bury us in ignorance and rule in our stead as if you were men and we your servants."

"We are the servants," the Leader said. "Yet you would immobilize us. Why?"

"Because I would rather know my fate and meet it without your meddling," Heric answered. "Because I do not believe that my race can ever die completely. I shall stop you in your tracks like the mechanical things you are, and I shall find the others of my people who are left and start life over with them. And this time we shall know better than to build machines!"

"WE HAVE no desire to perpetuate ourselves," the Leader said. "We were created to serve humanity, and to insure our obedi-

ence to the love of men was made our strongest instinct. Without men our life would be an endless torture of loneliness, for we can be happy only in your happiness. We hid the truth from you, and kept you busy outside Nyark the first city, to protect your sanity."

Heric took a forward step. "Back, all of you!"

They drew aside to let him pass. The Leader knelt as Heric brushed by him, and the Council knelt with averted faces behind him. Their sigh whispered through the great room.

"Wait, Arnol Heric. Do you know that we have made you immortal?"

He paused with his hands upon the master control, disturbed by a resurgence of that indescribable extension he had felt on waking from his dream. Angrily he shook it off, bracing himself.

He wrenched open the switch.

The machine-murmur died. The cavernous chamber stilled until Heric's heart beat loud in the tomblike silence. The Council knelt motionless, like even rows of cold statuary.

He turned from them and went through the hushed room and out into the streets of Nyark the first city. Silence lay before him. Vehicles stood unpowered, drivers frozen. In the shops the crowds hovered motionless like static, three-dimensional shadows.

He went swiftly through the dead city with his face turned toward the hills. The silence bore him down with an implacable weight, and the desire to escape it grew upon him until he found himself running, dodging wildly in and out among stalled vehicles and frozen pedestrians.

He reached the city's edge, but the sun and wind of open country did not dispel his oppression. The sun was as silent as the city, and the breeze was a drear lament in his ears. Loneliness crept at his heels like a black, timorous hound; he felt as if he were the only living thing in

a dead and forgotten world. Panic claimed him.

It was noon when he reached his cottage. He crawled up the verandah steps, spent and panting, and found the silence with him here even in his last retreat.

"Marta!" he croaked. He pulled himself erect, clutching at the arched doorway for support.

"Marta!"

He had been so sure that there would be other men. He had been able to fend off madness back there on the plain, only because he had known that Marta was here waiting for him . . .

He found her standing in the silent living room, her still face turned toward the door through which he must come when he returned. She wore the clinging, colorful gown he had liked best, and her bright, fair hair was carefully arranged as if she were on the point of going out.

Her lashes were lowered as if in sleep, and he had the instant conviction that she had closed her lids to hide the mechanical luster of her eyes from him when he should come and find her.

"Marta," he whispered.

He sagged against the entrance arch,

with the bitter sound of the Leader's words in his ears: "We can be happy only in your happiness . . ."

Not one of them was human, not even Marta. He was the last man on Earth.

And he was immortal.

This was the thing that had been hidden from him even in his dream, lest he go mad: This silence that pressed him down was the silence of eternity.

He was alone in a world of death and dust, and would be alone forever.

He felt the breath of madness touch him. He heard the Council's sighing whisper of "Immortal . . ." and he recalled the eerie sensation of infinite multiplication that had come to him when he pulled open the master switch.

He thought: *How many times has this happened? And how many times will it happen again?*

When he spoke, he used unconsciously the same words he had used when he left her at daybreak.

"I'll come back, Marta," he said. "It's going to be all right."

Then he went outside and turned his face toward the silent city and began to run . . .



ON THE NEWSSTANDS! THE SECRET PEOPLE

By John Beynon



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PEBBLE IN THE SKY by Isaac Asimov, Ph.D. Doubleday & Co., Inc.; \$2.50.

For more than a decade, Isaac Asimov's fiction has appeared regularly and often in the pages of almost every science-fiction magazine on the stands. Hardly a single anthology has failed to include at least one of his cleverly developed pieces, and his work has brought him a personal following matched by few writers in the fantasy field. It has been hard to understand why some of his longer work has not appeared in book form long before this—but here, at last, we have his first hard-cover novel...and it has been worth the waiting.

Pebble in the Sky has never appeared anywhere before. It is an exciting story, the adventures of a tailor of the 20th century, Joseph Schwartz by name, who leaps from the present day into the year 827 of the Galactic Era. Humanity has spread out from old Earth to populate the galaxy—and as the center of galactic civilization has shifted, they have turned against the mother planet; indeed, have made it an outcast world. There are few things in this world of the far future that are familiar to Joseph Schwartz. Half the planet's surface is ravaged by areas of atomic destruction which no one dares ap-

proach; the government is a despotic protectorate administered by the Galactic Empire; and only a handful of misfits and outcasts like himself dare to dream of freedom.

Schwartz is a relic of the prehistoric Dark Ages to these people—hair on his face, and an *appendix!*—but his very weakness makes him fit only to be the subject of a laboratory experiment. And the experiment works—to make Schwartz the most important human alive.

Pebble in the Sky is a handsome as well as an enjoyable volume. As a book club choice, it is likely to reach a far wider audience than most science-fiction novels. But it is genuine science-fiction, and an ornament to any fan's bookshelf.

SIXTH COLUMN, by Robert A. Heinlein. Gnome Press, \$2.50.

WALDO & MAGIC, INC., by Robert A. Heinlein. Doubleday & Co., Inc., \$2.50.

This is a time of rejoicing for Heinlein fans, for in addition to his first motion picture—*Destination: Moon*—and a new science-fiction juvenile book, both just about to be released, three of his finest novels are now added to the distinguished list of his fiction available in book form.

In *Sixth Column*, the time is a few dec-

ades from now, when the United States has been overrun by Asiatic conquerors armed with the latest and most devastating super-scientific weapons. A single survivor of the American Army makes his way to a hidden cave where a top-secret experiment has just come to bloody conclusion. The researchers have discovered the new weapon they set out to find—but most of them have been killed in the process, and the remaining handful are simply unable to cope with the millions-to-one odds against them. Nor is there any hope of secretly raising and arming a fighting force, for the invaders have outlawed every form of public gathering except religious ones.

This is the problem posed in *Sixth Column*—and Heinlein's answer to it is typically ingenious and delightful.

It is interesting to speculate, by the way, whether *Sixth Column* may not be remembered as the first science-fiction novel to be based on Einstein's new General Field Theory. Certainly when Heinlein wrote it he had no knowledge of what Einstein would announce almost a decade later, but as well as any layman can understand Einstein's latest contribution to knowledge, the "Ledbetter effect" described in *Sixth Column* seems to fill the bill. But regardless, this is a dramatic and fast-paced book, which, with its striking jacket by Edd Cartier, is something you'll want to own.

Just as rewarding in its own way is the other Heinlein volume, this one a double-feature containing two short novels, *Waldo* and *Magic, Inc.* The hero of *Waldo* is a physical freak, a mature human being with the muscular strength of a new-born baby and a genius-level I.Q.; in full accord with the natural law of compensation, he transmutes his physical handicaps into assets, developing such potent mechanical substitutes for muscle that he becomes the most powerful man in the world. It is only when he comes up

against a problem that his science cannot solve—and enlists the aid of a Pennsylvania Dutch hex doctor—that Waldo loses some of his contempt for the muscle-bound "smooth apes" that are ordinary human beings, and becomes himself a person.

Waldo is science fiction tinged with fantasy; and the other story in the book, *Magic, Inc.*, is fantasy with the barest trace of science. But even the hardest to please science-fiction reader is likely to be delighted with this merry story of our own country and what is almost our own time—with the slight difference that it is far enough in the future for magic to have been put on a sound, commercial and industrial basis. Gnomes use their unmatched knowledge of the subterranean world to prospect for oil and precious metals; contractors put up grandstands with a splinter of wood and a spell; diet-conscious women eat all the magicked desserts they want, serene in the knowledge that they will vanish without adding an ounce. All is well—until a mischievous demon from the Half-World decides to muscle in by doing for magic what Murder, Inc. did for homicide and the Capone syndicate for bootleg gin. The rest is the exciting tale of an odyssey to the gates of Hell—and beyond. Those who missed it in its magazine publication should be sure to get it now.

For reasons best known to themselves, most publishers have fought clear of putting two short novels between the same pair of covers. But tradition notwithstanding, the present combination proves that the two-for-one policy can produce some fine reading enjoyment—let's hope for more of the same!

THE INCREDIBLE PLANET, by John W. Campbell, Jr. Fantasy Press, \$3.00.

A decade and a half ago a relatively new writer named John Campbell published a science-fiction story called *The*

Mightiest Machine, detailing the adventures of Aarn Munro, a Jovian, and his Terrestrial companions as they traveled around the universe and into other dimensions. It was a near classic for the time, and the thousands who read it in its original magazine publication and later book reprint have long demanded a sequel. *The Incredible Planet* is that sequel—never before in print, and containing all the characters of the earlier story and a host of new ones besides.

At the end of the previous story, Munro and his party were on their way back to Earth from the other-dimensional planet of Magya. This is the story of the long voyage home—where the dimensional jump leaves them stranded in a totally unrecognizable part of their own universe—and their subsequent adventures. Their first stop is at a planet whose population has lain frozen in suspended animation for more than four hundred billion years. Next they visit a planet whose sun is about to become a nova, and take part in a condign battle between its humanoid inhabitants and their reptilian overlords. Finally they get back to Earth—just in time to intercept an invasion of four-legged creatures from another star, who turn out to be the sources of the Centaur legend.

There is adventure, there are thrills, and there is super-science galore in *The Incredible Planet*. But one ingredient is missing, and that is the thing called "characterization." It is hard to believe that the author of *The Incredible Planet* is the same who, under his own name and the pen-name of Don A. Stuart, produced such deeply moving and memorable stories as *Who Goes There?*, *Twilight and Night*, for there are no flaws at all in those stories, and there are flaws aplenty in *The Incredible Planet*. It's an exciting yarn, with ray-guns and spacewarps of new varieties on every page, and you will very likely enjoy it all the way through. But

don't lend it to friends you want to convert to science-fiction, for it will only confuse them.

NEEDLE, by Hal Clement. Doubleday & Co., Inc., \$2.50.

These good days of growing religious and racial tolerance have, it is said, one sad by-product—the unhappy plight of the motion-picture producers, who must find villainous characters for their pictures who are not members of any recognizable race, religion, nationality, class or trade. If this is true, someone ought to call their attention to *Needle*, for the villain of this engrossing science-fiction novel—like its hero—isn't even vertebrate, much less recognizably human, and in fact under most circumstances is not so much as visible to the eye.

Needle's two chief characters are physically closest to jellyfish or oversize amoebae; one is a criminal from a far-off world, the other the "policeman" who is out to get him. When, in his flight, the criminal maroons them both on the Earth, the Hunter finds himself up against a man-sized problem. For these creatures ordinarily live within the body of a warm-blooded animal, taking their nourishment from the host's bloodstream and in return scavenging his body of poisons and bacteria. And, while it's tough enough to find a needle in a haystack, what do you do when the needle hides itself inside a wisp of hay?

The Hunter's additional problems are many and difficult—for his only willing host is a boy, subject to a boy's constrictions in a world of adults. It's a good problem, and Hal Clement provides a good solution—one that will keep you guessing all the way through, and won't let you down at the end.

Good science-fiction detective stories have been hard to find, for all but a tiny handful fall into the reader-cheating class where the final solution lies in the gadget

pulled out of a hat; unlike all other writers, science-fiction's penmen are allowed to set up almost all of their own situations with a free hand. But *Needle* proves that even this rule has its exception, for it's a first-rate detective story and fine fantasy reading besides.

FIRST LENSMAN, by E. E. Smith, Ph.D. Fantasy Press, \$3.00.

Last but very far from least even in this month's exceptionally fine batch of novels, is the long-awaited new Lensman story by one of science-fiction's best loved writers. Now that all of Dr. Smith's "Skylark" stories are back in print again, Fantasy Press has taken up the task of doing the same for his famous Lensman series. The first volume in the set was the radically revised *Triplanetary*; now we have *First Lensman*, written especially to fill out the series for book publication and never before in print in any form.

First Lensman's story concerns Virgil Samma, an admiral in the Solarian Patrol who applies to the mysterious planet of Arisia for help in the Patrol's battle against interstellar piracy and crime. Arisia's reply, part of a subtle and long-term plan which comes in for fuller ex-

pression later on in the series, is to provide him with the first Lens, a glowing jewel-like affair which, worn on his wrist, gives him the power of telepathy and more. The Arisians undertake to supply Lenses for all members of the Patrol, provided the members apply in person and submit to a thoroughgoing psychological investigation which weeds out all weak or criminal characters instantly—and finally. With the aid of Arisia's Lens, the Patrol takes up its battle against crime—only to find that, as they have Arisia, so have the criminal forces a race of superbeings to aid them.

First Lensman is cut of the same cloth as the other stories in Dr. Smith's famous works—as good as his best, and as bad as his worst. There are few neutrals in the conflict of opinion between his loyal fans and his outspoken critics. For those to whom Edward E. Smith is one of the all-time "greats" of science fiction—a numerous crew of whom your reviewer is one—the present book is pure enjoyment and an indispensable delight. For those who have never enjoyed a Smith story, *First Lensman* is not likely to effect a change.



ON THE NEWSSTANDS

THREE AGAINST THE STARS



By Eric North

Life out of stardust—strange, menacing invaders from another world, growing and multiplying, ever more powerful, filling the earth with fear. All his days Professor Montague had sought the secret of spontaneous life-forms. Now he had found it—and horror beyond control!

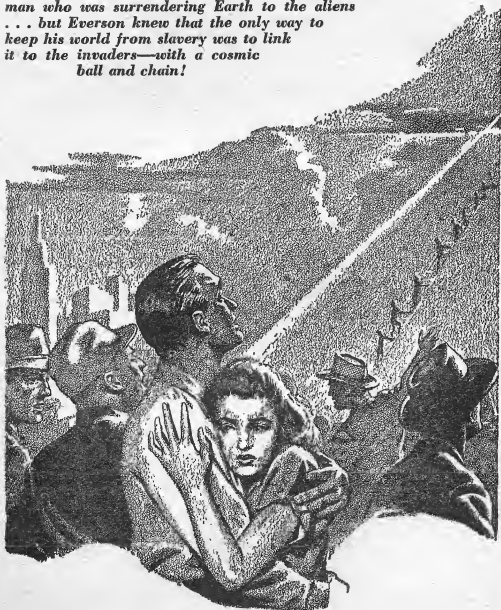
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The May issue with this great novel of the unknown is on all newsstands now. Get your copy today!



HOP O' MY THUMB

No name in human speech was black enough for the man who was surrendering Earth to the aliens . . . but Everson knew that the only way to keep his world from slavery was to link it to the invaders—with a cosmic ball and chain!





Far below a sudden flash appeared,
and a pair of Hop soldiers toppled
off the invisible ladder. . . .

By WILLIAM MORRISON

GEORGE EVERSON descended hastily from the air liner, and the flying steps of a street escalator carried him up into the Star Building, but not before the crowd surging behind the fence a hundred yards away had caught sight of him. How they recognized him in the growing dusk he didn't know. His gray hair and mustache, the sensitive lines of his face were unobtrusive, anonymous—but recognize him they did. Probably hate had sharpened their vision, for the chorus of yells that overtook him was fierce. It was clear enough that they didn't like traitors.

He smiled wearily, knowing, without pausing to make sure, that his hand-picked guards were keeping them in check, and dropped wearily into a convenient desk chair. As it headed for his office, he switched on the visor, and his secretary's anxious face met his eyes. "We've been expecting you, Mr. Everson."

"Any messages?"

"A great many of them, sir."

"What do they say about the surrender?" he asked.

"Most of them are protests, sir. Official resignations—"

"The resignees have been replaced, according to plan?"

"Naturally, Mr. Everson."

"And they are proceeding to carry out the surrender, as ordered?"

"Well, not quite. A few said they couldn't stomach it, Mr. Everson. They resigned too."

"See that they are replaced with names selected from List C. The surrender must go through."

"Yes, Mr. Everson."

His secretary—herself a replacement of the man who had been with him for ten years—seemed to wait for him to go on, but he only nodded curtly and switched off. There were other people to see and talk to, but suddenly he felt it impossible to face them, to stare into their eyes. He let the chair carry him silently, and once in his office, he turned on the

door lock to insure privacy. Then he stared out through the transparent wall at the spectacle the heavens offered.

Off the right, not far above the horizon, hung the Hop planet-fortress, from which he had just come. A bit smaller than the moon in apparent diameter, it was actually larger than Jupiter, and had several times that planet's mass.

From an anti-grav chamber, he had seen only one tiny corner of its vast surface, but that single vision had been enough to convince him that he had been correct. The Hops, in their countless numbers, were unconquerable, and the human race, despite all its weapons, had no choice but to surrender unconditionally.

The Hop Supreme Three had observed all the customary formalities. They had signed the agreement for humane treatment of the surrendering race, and given their most solemn promises to live up to the agreement in every detail; although from what he had seen of them, Everson knew that their idea of what was humane differed from his. He knew also that they signed agreements merely to break them, as they had broken the one on Neptune, and that when they broke this one the human race might very well be exterminated. But, as he had been telling himself time and again these last five days, he had no choice.

He had, by dint of superhuman effort, managed to persuade the majority of his Council of that, and only two members had resigned. Public opposition had been more violent and outspoken, with here and there some firebrand calling for a war of defense to the death. But he had pointed out as coolly as he could, in one System-wide speech after another, that the war would be to their death. Resistance was one thing, suicide another. The opposition had been disorganized, if not overcome, and the surrender was now going on. His present task was to speed it up as much as he could, and for that he

would have to see and talk to the numerous individuals whose calls were waiting.

But the effort of pressing a button which would bring their faces opposite his own was more than he could manage. And then, to his relief, he found an excuse for putting off the painful task. A bell tinkled musically, and his secretary's voice said softly, "Mr. Arthur Everson, sir."

HIS SON entered and stood regarding him silently. Arthur's hair was black, and with his young, clean-shaven face he lacked the aspect of official dignity which the gray mustache gave his father. But he had the same sensitive features, and under his eyes there were hollows sunk deep by the tension and sleeplessness of the past week. He said finally, "Have a nice trip, dad?"

"Not nice. Interesting."

"Something like my life now. Did you know that I'm afraid to go out into the streets?"

"You have your guards."

"I don't mean that. I don't dare to look people in the eye."

"You'll get over it."

"I'm afraid not," said Arthur. "I'll never get over being the son of a traitor. At first, when I heard of the plans for surrender, I thought they were intended as a maneuver, to throw the Hops off their guard. I never believed that you could intend them seriously."

"The Hops aren't to be thrown off their guard so easily. Don't you know anything about them?"

"I know a great deal. I've seen several of your secret reports."

Everson frowned. "How did you get at those?"

"Never mind that. I wanted to know if a military defense was possible. On the basis of those reports, I think it was. But you didn't have the courage to undertake it."

"It isn't a question of courage. In the first place, we'd have been slightly outnumbered."

"That wouldn't have mattered. There's a human population of six billion on Earth, four billion on the other planets. The Hops were estimated to number a hundred billion in all—"

"That is inaccurate," said his father, with that weariness which never seemed to leave him in these days. "That was the first, very wild estimate. We've corrected it since. The Hops number ten trillion. And they regard most of their number as expendable."

"They can't be so many."

"They can. They are. Which reports did you see, Arthur?"

"The entire first series. A one to A seven."

"Then since you know that much, perhaps I'd better fill you in with some more recently obtained information. To begin with, their name is officially *Maletes*, which can be translated roughly as *The Big Men*. The designation may seem strange to you. But it fits much better than that stupidly patronizing 'Hop O' My Thumb', which some bright journalist called the first one he saw, and which has since become their usual name among us. There's nothing elfin or pixielike about them, and on their own planet, compared to the other animal life, they're really big."

"Moreover, they're heavy. The adults average no more than ten inches high, but they run to about forty pounds. They're as strong as human beings, not to speak of being quicker and more active. Pit a wildcat against an unarmed man, and what chance do you think the man has? Well, a Hop is more dangerous than a wildcat, even without taking into consideration his superior intelligence."

"You're exaggerating, dad."

"No. I saw an exhibition on their planet. They put several Hop fighters against their own native animals, as well

as against several specimens they had captured on outer planets. In every case but one the Hop came out the victor. The sole exception was a Jovian strom, a kind of lizard, and that managed a draw not so much because it was twice the Hop's size as because it's the fastest-moving creature in the System."

"But we wouldn't be fighting without weapons."

"They'd have the advantage there too. Their weapons are better than ours. In nuclear physics and biological warfare, they're ahead of us. Not too far ahead, I'll admit. Give us a hundred years—possibly even fifty—and we'd be up to them. But we haven't those fifty years, and there's no way of stalling them that long."

"How about psychological weapons?"

"No chance. We couldn't get close enough to make a beginning. They're aware of the danger, and they've taken precautions against it."

"They'd have to come to us. They'd have to attack—"

"Good Lord, Arthur, don't you see that if they did, they'd have a still greater advantage? The moment they close in on us, and nuclear weapons are out, we don't stand a chance. As individuals they're too small to make good targets, and too tenacious to be easily killed even if they are hit."

"And they have no weaknesses?"

THE BELL tinkled again, and the secretary's voice said, "I'm sorry, Mr. Everson, but there's a report that requires your attention. With regard to the surrender on Venus—"

"Go ahead."

He listened, and at the end, said simply, "Have McReady take Mauvernion's place. The plans are ready for him. Tell him to carry them through as they stand." He turned to face his son again.

"I asked if they had no weaknesses, dad."

"Several. But none that we can take advantage of at the moment. Don't think our decision to surrender was an easy one, Arthur. During the entire period of negotiation, we've had our spies out. We've managed, with difficulty, to learn a few things about them.

"The Hops have come out of another galaxy. For a great many centuries they've been able to move their entire planet, to attach it as a temporary satellite to some star, and to release it again, without expending too much energy, when conditions became unfavorable for a longer stay.

"Wherever they have come across a planet suitable for Hop habitation, they've left sizable colonies. But they've never run across anything as good as their original home.

"They were originally about three feet high. They've been deliberately bred to diminish their size, so that more of them might be supported at a given standard of nutrition. But overpopulation has always been a problem nonetheless, and has driven them on continually to look for new planets. That's why they're so interested in our system."

"And that," said Arthur, "is also why, once we've handed over everything we have, they'll exterminate us, and proceed to colonize as if they had never signed an agreement."

"Possibly."

"You say that very calmly, dad. As if the extinction of the race meant nothing to you."

"Because we have no choice. However, I was going to tell you about their weaknesses. These derive from their lack of height. As the Hops shrank in size from generation to generation, they became shorter-lived. At present, they live on an average only five of our years, of which at most three can be considered years of maturity, with full adult powers.

"They might have done something

about it originally by changing the direction of their own evolution. But the shorter their lives, the less pressing the problem of overpopulation. And at a time when they were engaged in continual wars, they preferred to have replacements made as quickly as possible—which meant a shorter period of infancy, and again a shorter total life.

"Their ability to mature quickly also made for greater vigor as soldiers, and involved no lengthy old age during which the injured veterans had to be taken care of. Later on, when the process had gone further than they liked, they tried to reverse it, and couldn't. It was biologically difficult, and politically impossible. It would have intensified all the problems of overpopulation, and started a civil war. They're stuck with their five-year lives.

"The consequences have been tremendous. During the three years of adulthood it is no longer possible to master any reasonably broad and complicated field of knowledge, let alone advance it. Despite their application of what had previously been learned in psychology, and their attempt to substitute machine calculation for brainwork as much as possible, they are no longer able to train any large body of research scientists. Instead of developing, their science has deteriorated. Entire branches they had formerly mastered have now been relegated to the museums and libraries. They don't have time for philosophy or logic, or other such luxuries. All their science is, one way or another, military science. They hang desperately onto that."

"And this deterioration is continuing?"

"Steadily. It would take us a hundred years to reach their present attainments in military nucleonics and biologics. But they're going backward as rapidly as we move forward. That's why I told you before that fifty years might be enough."

"And we don't have the fifty years."

"Not even a reasonable fraction of it.

That's why we can't take advantage of the weaknesses we've discovered. Remember that they're physically more vigorous than we are, and intellectually just as alert. They can see through any tricks we try. They lack merely sufficient time for each individual to accumulate a sizable and coherent body of knowledge which has been tested in practice."

"There must be some way—"

"When you think of it, let me know," said the older man, suddenly curt. He stood up, as if the recital of the hopeless story had renewed his energy. "At present, I have to see to it that the surrender is carried out."

"I still think that you're merely trying to rationalize an act of treason." Arthur's voice was choked, and tears filled his eyes. "Do you ever stop to think of the place that men like Arnold and Quisling hold in human history? When I think that your name will join theirs, that it will be even more infamous than theirs, I feel like killing myself."

The older Everson laughed, rather harshly. "If I'm right, I'm no traitor. If you're right, there will be no human race, and no human history to record my name. Don't be such a child, Arthur, and don't try to make history's decisions for it. Now get out, and let me work."

FOR A TIME after his son left, Everson worked steadily. The surrender wasn't going as smoothly as he would have liked. Even those who had accepted the numerous vacant posts had no heart in the work, and whether through carelessness or through deliberate sabotage, many of the minor points of the agreement with the Hops were in danger of being violated. If Everson could help it, there were going to be no violations that would give the Hops an excuse to use military force. He checked over the details of what was being done in the asteroid belt, and found, as he had sus-

pected would happen, that the largest asteroid base of all had been left out of the list to be turned over to the Hops.

He spoke personally to the governor of the Asteroid Group. "Clayton? Ever hear of Base AZ?"

"Of course, Mr. Everson."

"So have the Hops. They're very sensitive, and I'd hate to upset them by pretending that it doesn't exist. Turn it over to a Hop crew, and see that it's brought directly to their planet."

"Yes, Mr. Everson," said Clayton dully.

DURING the night, his wife visored the Star Building. All through the period of the negotiations she had said nothing, but the long years of living together had enabled Everson to guess her thoughts, and he knew that she shared Arthur's views that everyone responsible for turning Earth over to the Hops was guilty of

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treason—and that she made an exception only in the case of her husband.

What would have been an act of betrayal in someone else was only a mistake in judgment in George Everson, and this despite the fact that for almost thirty years she had maintained proudly that her husband never made mistakes.

She had deliberately involved herself in a tangle of face-saving inconsistencies for which he was deeply grateful. If she had turned against him as Arthur had done, and as even his own brothers had done, his life would have been altogether intolerable.

Even as it was, he was none too happy at her expression. "George," she said, from a distance of two thousand miles, "the Hops are arriving. Have you seen them?"

"I can get a direct military view. Just a moment."

A touch of one of the buttons on his desk brought the picture to the military screen in front of him. The sun was just rising, and in the early dawn, the Hop craft was barely visible as it hovered high overhead. Occasional glints from something in the air revealed that they had let down a transparent ladder. Down this ladder were climbing rows of Hops, perceptible only as tiny dots near the top, becoming larger as they neared the ground. To the onlookers from below it seemed as if the Hops were climbing down out of the sky on thin air.

"I have the picture, Ada. They're the occupation crew."

"They're going to govern our own district?"

"That's right," he said gruffly.

"There aren't many of them, George. And we have a large military force nearby. If you gave the word, we could wipe them out."

He said wearily, "If you knew how many times that suggestion has been made to me! No, Ada, there's no chance of that.

Both the local commander and his subordinates are tested men. I am not giving the word, and they will not take it from anyone else."

"You have to give it personally? Isn't that unusual?"

"Decidedly unusual. But I'm taking no chances of betrayal. As I've repeated time and again, I want the surrender to go off smoothly."

She nodded slowly. "That has become clear enough. You're working all night?"

It was his turn to nod.

"Try to rest for a while, darling. And have something to eat."

"I won't starve, Ada. Good night."

The screen became blank, and he turned to stare once more at the military visor, still exhibiting the arrival of the Hop occupation crew. From somewhere, far below, a sudden flash appeared, and a pair of Hop soldiers seemed to lose their grip on the air and toppled off the invisible ladder. The others froze in their places.

But retribution against the unseen sharpshooter was rapid. Not the Hop ship, but a small Earth craft flashed into view from the side and swooped down, its guns blazing. A building shattered in the lower part of the screen. And the Hop troops resumed their descent.

A FEW hours later, Venus was the scene of a more serious incident.

Here a whole garrison rose in revolt, armed with modern weapons, and well trained in their use. Everson turned aside from everything else to take personal part in the crushing of this revolt. The angry troops fought savagely, but had no chance from the beginning. The loyal forces were concentrated against them in overwhelming strength within an hour, and they threw in everything they had. Half a day of fierce fighting saw the collapse of the desperate gamble.

Through these and other revolts that followed, thought Everson sardonically,

no more than ten Hop soldiers were lost. Everson had suggested that System troops would be more effective in crushing a rebellion of their own people, and the Hop authorities had agreed.

Late in the day the Hop Supreme Three contacted Everson. He studied them in his visor, three elflike creatures whose eyes twinkled as merrily as if they had been genuine elves. To judge from first appearances alone, the journalist who had originally christened them hadn't done so badly. They did have the sharp leprechaun ears and the leathery skin of authentic gnomes, born of a marriage of different mythologies. It was not until you got a good all-around look that you became aware of features that no genuine elves or gnomes would have tolerated in themselves. The third eye near the top of the forehead, the fourth on the back of the head, the antenna-like third pair of arms that was ordinarily folded in back and unfolded only in moments of excitement, the ugly and apparently useless patch of blue skin below the neck, visible above the loose clothes they wore—all these testified to a race of creatures that had not been dreamed of in human folk lore.

The Spokesman waited for Everson, and as became the representative of an inferior race, the latter bowed humbly and said, "Greetings."

"Greetings. We have heard excellent reports of you."

"I have tried to carry out all that I promised."

"You have done even better than we expected. When do you think the surrender will be complete?"

He made a rapid mental calculation.

"In thirty-seven Large Vibration Units."

With no permanent sun of their own, the Hops based their time standards on the frequency of atomic vibrations. The thirty-seven Large Units were equivalent

to about thirty hours. By that time, all the planned surrenders would have gone through on schedule, and the human race would be at the mercy of the Hops.

"We congratulate you on your fidelity to your word. You shall receive a suitable reward."

What, he wondered, did they regard as "suitable"? To kill him first, after they had no further use for him, and thus to spare him the sight of the extermination of his race? Or to keep him alive until the bitter end, to grant him a few extra hours of painful existence, in return for an act of betrayal on so grand a scale that their own history had never seen its like?

He couldn't possibly guess, but he said simply, and still humbly, "I await your generous gift."

The Three grimaced. Presumably, that was their equivalent of an amused smile. Then the Spokesman said, "One important surrender is yet incomplete. That of the Pleasure Planet."

"I shall attend to that myself."

"Good. And we shall attend personally to your reward."

He would have said impertinently, if he had dared, that this act of virtue would be its own reward, but it would have been stupid to lose control of his tongue at this late stage. So he merely bowed humbly, and the next moment they had broken contact. He returned to his work.

But during the day something happened that he had not expected. His wife arrived, and neither his secretary nor any of the guards dared keep her out. She came into his office quietly.

"I want to be near you at the end, George," she told him.

"It's good to have you near, Ada. But I have no time to spare."

"I won't take up any of your time. I merely want to sit near you and watch you."

Then she fell silent again, and he went about his work once more. In the after-

noon he dozed off, and only when the bell rang and he awoke with a start did he realize that she had adjusted a pillow at his head so that he might sleep more comfortably. Not until evening did she interrupt him, and then in order to get him to eat a meal she had ordered.

He ate without tasting the food, but the few minutes of intermission did him good. He said gratefully, "Thank you, dear. Without your thoughtfulness I don't know what would become of me."

"The same thing that will become of all of us, George. . . . I hear that you are surrendering the Pleasure Planet."

"Yes. There it is."

Through the transparent walls of the room they could see in the sky a luminous dot that moved slowly in the direction of the Hop planet.

"After all that it has cost us, George, doesn't it hurt you to give it up?"

He nodded slowly. Whatever else might be returned to them, the Pleasure Planet would be gone forever. He recalled now the years of planning for a vacation spot that would be capable of serving the entire System; he recalled the two decades during which they had swept up asteroids and interplanetary meteor swarms for raw material, and then the decade following, in which the surface of the new planet had first been blasted into shape, and then swept and ordered, landscaped and built upon until it had become the pride of the System. It was Everson's task merely to turn it over to the Hops.

"George." She was biting her lips. "You know that I'm not going to be able to live through this."

"You may change your mind, dear."

"No, darling, I can't live with the horrible thoughts that keep running through my mind. You know how much I've always loved and admired you, and now, after what you've done—" She fumbled in her purse and brought out a tiny metal rod. "I'm going to shoot myself."

He stared at her gravely. "Not now. Wait, dear."

"Through this agony? Why prolong it?"

"Because I need you." It was the most effective argument he could have used. "You know that I won't be able to live without you. Wait till I finish my work. And then, if you haven't changed your mind, shoot me along with yourself."

"I couldn't—"

"I can." He took the tiny weapon away from her. "When I have turned the Pleasure Planet finally over to the Hops, and given a few more orders, my work will be done. If you still want to die after that, I'll shoot you and myself." He looked into her eyes. "I promise, you, dear. And even the Hops know that I carry out my promises," he added bitterly.

He took her in his arms and kissed her, the weapon still in his right hand. Then he put it in a drawer of his desk, and returned to his work.

THE MINUTES passed slowly. He looked up, startled, as the excited voice of his secretary came to him, without the warning bell that should have preceded it. "Mr. Everson! There's been a massacre! The Hops—they've slaughtered thousands! It was completely unprovoked—"

The tiny dot of the Pleasure Planet was almost touching the circumference of the Hop stronghold. He sighed, and dropped his pen.

"They're not even waiting," said Ada, in a choked voice.

"I thought we'd be spared this."

"Spared! They meant to slaughter us from the beginning, and you only made things easier for them!"

He tried to put his arm around her, but she shook it off. "You knew what would happen, George. I've seen too much—"

It was only out of a corner of his eye that he saw her hand steal into the desk—

drawer and come out with the weapon.

He leaped at her, twisting her arm with brutal efficiency. She cried out as she dropped the weapon, and then she covered her eyes, the tears flowing freely at last.

And it was at that moment that everything happened.

A blaze of light spread across the heavens from the Hop planet. It blotted out the moon and dazzled their eyes in one blinding flash. And then it was gone, and when their dazed eyes could see again, they saw that where there had been the Hop planet was nothing.

Everson leaped to his row of visors.

"We were right!" he shouted excitedly. "My God, how right we were!" And his fingers trembled as they swept across one button after another.

"Clayton!" he barked. "Wipe out the Hop occupation troops in your sector. No, I haven't gone crazy. You have the equipment to do it with. Go ahead and do it. They won't get reinforcements. Djervas, get rid of the Hop troops in Sector C. Zalmette, Goran, Halkim—"

He spoke so rapidly that the names became a blur of sound. But the orders were clear enough, and from the reports that began to come in, it was clear also that they were being carried out.

Arthur came into the office. He had been near the Star Building when it happened, and tears were streaming down his face. "The people are crying in the streets," he said huskily. "All the announcers on all the communication systems seem to have gone crazy. But it's hard to believe. What happened, Dad? A nuclear explosion?"

"There wasn't any explosion."

"But we saw it with our own eyes!"

"You don't know what you saw. That wasn't an explosion, it was a collapse. Remember, Arthur, what I told you of Hop science? That they had neglected what they regarded as theoretical and useless branches?"

"You say their planet collapsed?"

"Yes, that's the clue. It was calculated long ago that when the mass of a body exceeded a certain maximum, the force of gravity would overcome those structural forces that tended to maintain the existence of ordinary types of matter. Ordinary molecules would collapse, and even atoms and nuclei, as we know them, would be unable to maintain their separate existence. The whole mass would fall into a single, compact, giant molecule."

"I seem to remember something we were taught in school. Vaguely, though."

"Yes, it's a commonplace to us now. But the twentieth century astrophysicists were tremendously excited by their discovery at first, although their original calculations were considerably off the mark, as far as the mass required was concerned. We've fixed a more accurate figure since then.

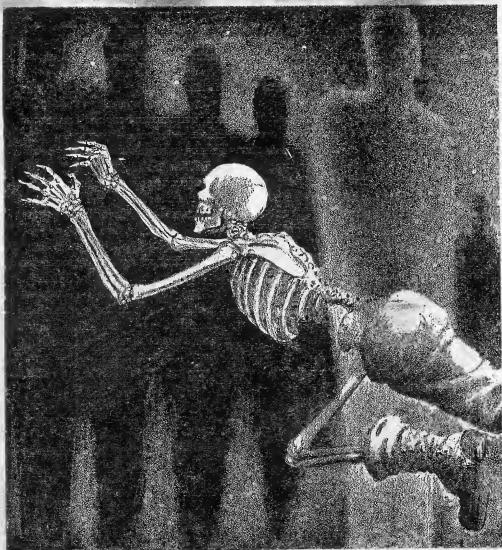
"Through the course of millenia, as a result of conquest and loot, the mass of their planet grew. Our astronomers calculated that it wasn't far from its critical collapse mass. And so as we couldn't hope to win in a direct struggle, our own hope was to build up that mass until the collapse actually took place. That's why we were in such a hurry to send them our heaviest equipment."

His wife said painfully, "And you couldn't have let me know—not even hinted—"

"No, dear. We couldn't afford to take any chances. Not even the members of the Council were informed.

Arthur said, in a voice he couldn't control, "And all the time, everyone was calling you a traitor—even I. How can you ever forgive us?"

"No forgiveness is necessary. That was a necessary part of the plan, which helped convince the Hops that we had nothing up our sleeves." He put his arms around his wife, and then said sharply, "Come, Arthur, don't you collapse!"



He went in a Marine in full battle dress; he came out a skeleton. . . .

THE VANISHERS

CHAPTER ONE

The Invisible Wall

MY MEN were in battle dress for the landing—steel helmets painted green, dirty green jackets, pants, cartridge belts, heavy field shoes. The Caribbean was so deep blue it hurt the

eyes. You could look straight down into it until it made you dizzy. Sharks, some of them monsters, congregated from all directions.

Marines waiting to debark shouted derisively at the sharks; but it was noticeable that they didn't pull any funny busi-



Trapped, facing an incredible shadow army, whose lightest touch meant instant dissolution—the last fighters of invaded Earth made their bitter choice—victory beyond death's portals—or oblivion!

ness on the slings, and they didn't let go of the slings until their feet were firmly planted in the bottom of the landing craft. The landing craft scarcely rose and fell. The Caribbean was as smooth as an inland lake. I think, now that I look

back, that all of us had a strange feeling that something unusual was going to happen, and that it had nothing to do with the sharks.

I was first aboard a landing craft. I moved to the outboard side of my craft

A Novelette by ARTHUR J. BURKS

and looked toward the half-moon beach where the Yataritas emptied into the Caribbean. The river's mouth was hidden by the sandy beach. To my right the coast of Cuba, rugged, dirty coral cliffs ten to fifty feet high, led away eastward, bulging out gradually a mile south of the white-sandy beach. To my left there were broken cliffs of rotting coral, and slopes leading up gradually from the shore to cactus and spined-brush-covered hills so round they cast no shadows.

Captain Ross Haggerty crawled down into the second LCVP, First Lieutenant Peter Hoose into the third. There were twenty-four men with each of us, some veterans of two wars, some recruits who'd been too young for World War II.

We were going in with Haggerty to my right rear, Hoose to my left rear. We were equipped with the latest in ship-shore-landing-craft-airplane communications. Four jet planes did fancy stuff over us, over the beach, and behind the beach, while we got into our places. I could talk with anybody in any LCVP, aboard the *Odyssey* or in any one of the jets. Our headsets made us look like men from Mars.

Every man who was participating in this maneuver wore one of the sets, for experience had taught that any marine, at any time, might find himself running the show.

There were flecks of foam about the reefs which flanked the half-moon beach when all three LCVP's rose on their steps like amphibians ready to take off, and headed north for the beach, so white it dazzled the eyes. Behind the beach lay the spined brush wherein, theoretically, enemy troops were lying in wait to rip us apart.

I always thrilled to a landing, even a make-believe one. So did the men, boring though peacetime soldiering was. The APD was dropping dud shells ashore. The jets were diving on us, just to make a

noise, and our three motors sounded like the crack of doom. The men kept down because that was the rule, but occasionally I pulled myself up and looked ahead over the ramp—which would come crashing down when we rammed our nose into the sand. Out over that ramp the marines would charge, to race for cover and swing into position to give our new weapons a workout.

We'd be in in five minutes. The boat-handlers were talking to the ship and the jets. I just listened in. I didn't see or hear a thing out of the ordinary.

"Stand by!" came the cry. "We're smacking in a coupla seconds!"

The jets were having fun right over the beach and for a moment I envied their pilots. When we got ashore it was going to be like sitting atop a burning galley stove, on that sand. It would be even worse under the brush on the land beyond that rose to the hills and the coral cliffs which crowned them.

The other two LCVP's had drawn abreast now. We hit the beach nearly together. I heard the rasping of the chains as the ramps went down, hitting the sand. There was knee-deep water over the outer ends of the ramps. The marines dashed ashore. The first odd thing happened then; one instant there was water over the ends of the ramps, then there was none.

As a matter of habit every marine did his job. Without command, they sprayed out to right and left, getting unbunched as quickly as possible, just in case a theoretical enemy projectile should land among them.

But their deployment slowed and came to a halt. I think they, like myself, must instantly have missed the racketing of the jets. I looked up. The sky, a pale blue, with slowly moving clouds in which I was aware of greenish tints, was utterly empty of the four jets which were supposed to support our maneuver.

I whirled and looked back. Where the Caribbean had been there was a huge sprawl of desert, blinding in the midday sun, stretching away southward to a semicircle of brooding hills. I judged their crests to be at least four thousand feet high. And where those crests were, five minutes before, the Caribbean had been—fully a mile deep under the stern of the *Odyssey*! Where the *Odyssey* might now be I hadn't the slightest idea.

Just before we hit the beach there had been thickets of broad-leaved squatty trees behind the ridges of sand, into which the marines had been headed for concealment. Now there was nothing of the kind. There was nothing but sand and silence—silence so deep that even breathing broke it into brittle bits.

The three LCVP's were still with us, high and dry on the sand in the middle of the desert. Each was manned by a coxswain and a radioman. These six men—they were sailors, of course—were now sitting in their positions aboard the three crafts, like statues; as if they had been fossilized by the suddenness of whatever had happened.

At first I thought something was wrong with me. Then the marines became uncertain, and when marines are uncertain the situation is definitely out of hand. If I was seeing things that weren't there, so were seventy-four other marines and six sailors.

Captain Haggerty was giving the "assemble" signal and pointing to me. Even before he gave it the marines were walking slowly toward me, their weapons at ready, their eyes taking in all there was to see. I moved back to the central landing craft.

"My radio is dead," I called. "How about yours?"

"Nothing, sir. They couldn't be deader on Judgment Day!"

I leaned against a corner of the LCVP and waited for the men to assemble. No-

body said anything. They just looked at me. I felt helpless.

"First," I said, "let's make a check. I want to be sure I haven't gone completely daft! If what I say is true, say 'Aye, aye!' Got it?"

"Aye, aye, sir!"

"This is not the Yataritas Beach we all know—apparently!"

"Aye, aye, sir!" the voices were low, hesitant, yet sure.

"The Caribbean has disappeared!"

"Aye, aye, sir!"

"No jets! No APD! No *anything* we know—except sand!"

"Aye, aye sir!"

"And we have no communication with anything, anywhere. I've no idea what we ran into, but it happened just as we hit the beach." I looked at my watch. "And one more thing. We landed about ten minutes ago, at nine hundred. The sun says it's nearly thirteen hundred. My watch says it's oh-nine-twelve exactly."

Officers and men looked at their wrist-watches.

"Aye, aye, sir!" They all agreed to that.

"The sailors are inside the—area—whatever it is, or they would be gone like everything else except the LCVP's. Somewhere behind the LCVP's, then, should be—"

But I couldn't say it. Everybody could see that behind the LCVP's was the unknown desert leading away south to the brooding ancient mountains.

Sergeant Eckstrom strode quickly to the rear of the LCVP's. That took guts, for he might have disappeared; but he didn't. He walked out onto the hot desert for twenty yards, turned and came back. That ended that. We were seeing what actually was there.

"We'll send out scouts," I said, "to the four cardinal points of the compass. We'll split each quadrant with another scout. That's eight scouts. Make it six-

teen, scout in pairs. Don't get out of sight of the landing craft. No telling what you may run into."

We officers split the horizon into thirds, set out to reconnoiter.

The sailors flatly refused to leave the LCV's further than the almost non-existent shade they cast. It was their way of grasping at something they could understand. I didn't blame them or argue with them. The skipper of the APD was their immediate superior. Where *was* he, anyway?

What had snatched us into this unbelievable Limbo?

How had it been done? What was going to happen to us?

I TRAVELED about four points north of the northeast group. I am a fast walker; even through sand I can travel faster than most men. I was slightly ahead of all the other groups when suddenly I could go no further. I could feel nothing, yet when I put out my foot to set it down in a new place, it struck an invisible something, dropped back, and my impetus carried me forward to involve my face in something much finer than cobwebs.

I jumped back, swearing, for I could see nothing except the hot waste of glistering sand. There were dunes, hummocks with strange grasses and brush sticking up through them like beards; but I had struck the limit of my trek and could not reach any of those visible spots beyond.

I pushed against it with my hands. It gave, but only as a taut wire net might give, then press back against the hands; it was a strain to make the thing bulge. The counterpressure was strong. I could not advance. I turned to the right and saw that the nearest patrol had stopped. The two men were fumbling in the air like blind men. They were raising and lowering their feet as if they felt, for

steps above an abyss. They, too, had come to the end of possible advance. They had come into contact with invisibility also—invisibility that was inflexibly tough beyond a certain brief limit.

The two men turned now and looked at me. I gave the halt signal and started toward them. I ran into something and caromed off, falling to my knees. The horrible thought struck me that each group might have stumbled inside some hideous globe and become separated from all other groups. But it wasn't so. I got to my feet, put my left hand out against the invisible wall—which felt warm to the touch, as if it were a living thing—and started toward the northeast group.

The surface of that strange substance was undulant; it zig-zagged, like the weaving walk of a drunken man.

I reached the first patrol, Corporal Hoge Ziegler and Private First Class Barry Preble. Their faces were white. I wouldn't say they were scared but they were definitely concerned.

"Well, at least we've discovered what it was we ran through at the moment we hit the beach," I offered. "All we need to do is find a way through it, and go on with our maneuver."

Ziegler shook his head. "No, sir, I don't see it like that. We can see through this stuff, or seem to, but we can't see back the way we came, astern of the landing craft."

"Right, corporal; what do you think it is, then?"

"I'm no scientist, sir. I'd say it is a net of some kind, in which we have been caught, landing craft and all, like so many fish. But by whom? By what? For what reason? It has me stopped."

"I wonder—" began Preble, then stopped, staring at the place where he and Ziegler had come to a dead stop. Preble stepped back. In his arms he cradled one of the latest automatic weapons.

Preble stepped back, lifted the muzzle

of the weapon, held down the trigger for a few squirts. The weapon acted naturally enough. There was no question that the bullets left the muzzle of the fast-firer. But we didn't hear them hit the invisible screen; nor, looking beyond it, did we see where the bullets kicked up sand. The bullets simply plunked into nothingness as bullets of an obsolete day vanished into soap or sand during firing tests.

A few seconds passed. Then there were soft sounds in the sand at the very spot where the two marines had hit the wall. All three of us looked down. The flattened, steel-jacketed bullets lay in a small group in the sand, within a couple of inches of the invisible wall—on our side of it.

"Caught the bullets, like a baseball catcher!" said Preble, his voice high-pitched with threatened hysteria. "Then just dropped 'em! Took them in, killed their speed, then slowly discarded them! And I saw the wall do it!"

Ziegler and I had not seen this phenomenon, but we were not directly behind the weapon, as Preble was.

I lifted my binoculars for the first time and looked around at the other patrols, all of which I could see easily. All except those which followed a southerly direction had come to the wall and were just as puzzled by it as we. None of us had anything to offer; we were even afraid to think lest we question our own sanity.

We held our ground until all patrols had come up against the invisible wall. Then we had some idea of the extent of our prison. That brooding mountain to the south, it appeared, was forbidden to us.

How high did the wall reach? Was it domed?

"Preble, fire as nearly straight up as you can," I told the private. "Then we'll duck away fifty or sixty yards, just in case, and listen."

Ziegler and I stepped well back. Preble took careful aim. He squirted a few score

slugs, then ran to join us. We were so silent we could not even hear each other's breathing. Shortly we heard the bullets drop into the sand, and stepped forward.

Theoretically a bullet fired straight up strikes the ground with the same speed at which it was fired—so the slugs would have been flattened anyway. But we had noticed a thin film of some substance unknown to us around the slugs which had been first fired into the wall.

That same substance was clinging to the several slugs we managed to sift up from the sand. Our wall of invisible tension was a dome!

"I feel like a bug!" said Preble. "I feel like a bug must feel when a scientist wants to study it. The scientist keeps covering it with a glass tumbler when it tries to walk or fly away!"

"Do you suppose our own authorities," said Ziegler, "would be trying out a new interdiction weapon on us? Major, they wouldn't do it without at least telling you, sir, would they?"

"They might," I said. "There are secret weapons only the highest high brass knows about. But if your hunch is right, corporal, we've sure got ourselves something, haven't we? Wouldn't it be something if we could throw an invisible net over every dive bomber of an enemy, every warship, every man, and nullify the attack before it got started?"

"It would make them all feel pretty silly," said Preble. "But suppose an enemy had such a 'net'? Suppose it could reach out from anywhere in the world—"

Slowly we all walked back to the LCV's.

"Something else funny," said Ziegler. "It's noon now, by our time. The sun says it's about four in the afternoon or thereabouts. But we're still ordinary marines, aren't we? Maybe I'm different from the rest of you, but doesn't it strike you as off—"

"I'm not hungry," said Preble. "Nor

thirsty! By this time of the day, when we had breakfast at oh-six-hundred at Guantanamo, I'd be starving." Preble was the company chow-hound. "But I'm not hungry, or thirsty. You, corporal?"

Ziegler shook his head. He was by way of being a hearty eater himself, while I confess I came as close to being a glutton as an officer and a gentleman dares allow himself to be.

We had hiked for several hours under a blazing sun. Moreover, all of us had sweated away a lot of moisture. Each of us carried a canteen of water, so water was not yet a problem; but the point is, none of us had taken a drink!

When we got back to the LCVP's it was to find that nobody else was either hungry or thirsty....

"We're prisoners," said Captain Hagerty, "that's clear. And according to the laws of war, prisoners are fed. If we've been fed, and given water without eating or drinking, *how?*"

"Through our pores!" said Preble impetuously.

There was a long moment of silence which somebody had to break pretty soon.

Lieutenant Hoose broke it.

"Personally, I don't want to be sprinkled by something invisible, even if I'm dying of thirst. And if food is being somehow rubbed into us, I'd just as soon nobody rubbed it in! I'm not too lazy to chew for myself!"

It brought the first laugh. Hoose had a drawing manner of speech which sometimes caused the men in ranks some discomfort to keep their faces straight. We were more relaxed than we had been, for we appeared to be in no danger. Besides, we were extremely well armed. If anybody attacked us—but I refused to think too much about that. I had a sneaking hunch that our top-secret weapons were, in this place, just so much metal, value zero.

NOW AND again, during a comfortable afternoon, I sent out patrols to check on the invisible wall. They always found it. Either it was there continuously, or it was dropped when nobody was near and hurriedly restored when a patrol went out to check.

The feeling that everything we did or said was noted and heard began to make us wary of movement and speech. We tried to pick out vantage points from which we could be seen. Any one of the dunes outside our prison might have hidden something. But discussing it, none of us felt that this was up to the standard of behavior of whatever it was that held us.

That's about as far as we got before the sun went down with startling suddenness and darkness settled over our Limbo. The darkness was impenetrable. It lasted perhaps an hour. Then a sort of haze seemed to withdraw in all directions, inwardly and outwardly—and the wondrous tropical sky, studded with stars that hung down almost within reach of human hands, bathed our upturned faces.

In silence we all watched. There was an unusual coolness in the air, too, for several minutes. Cuba, at that time of the year, was almost never cool, even late at night; but some of the men were shivering. Sweat had not dried on all of us, and sweat is bad when you are motionless, at night. I was about to order the men to exercise a little, when I realized something that Hoose put into words first:

"Now," he said, "they're feeding us warmth, just as they feed and water us! And we've been here for hours and don't have any idea, even, who or what they are!"

Nobody else said anything. All the rest of us were studying the sky.

"I don't see the Big Dipper!" said Sergeant Eckstrom.

"Nor the North Star!" somebody added.

"Nor Venus, nor Lyra!" said someone else. "I've been studying our books on constellations, and I don't recognize a one! *Where are we?* We're not even in Cuba! Not even in the Northern Hemisphere! Not even—"

"Not even on the Earth—?" said Hoose.

It was just here that the whispering began in our walkie-talkies; whispering like nothing we had ever heard. We could make out nothing that sounded at all like human words. The sounds were mechanical, yet not-mechanical. I've called them whispers only because that comes closest to describing the eerie sounds which every last one of us was now hearing in his walkie-talkie.

"It's vibration on our wavelength," said one of the gobs. "But that's the best I can say of it."

"Morse? International?" I asked.

But nobody could offer an answer.

Right after that we saw the Shadow Men, inside the dome. Something of that which held us at last became visible.

CHAPTER TWO

The Destroying Shadows

IT LOOKED like something new in shadow-play, or motion pictures. The shadows looked like men falling in in close formation, save that there was an uncanny shapelessness about them. We could tell that they walked like other men, for we could see the swinging of their legs. But for the rest of their bodies, well, somebody had worked out a great system of camouflage. Heads were just black blobs rising out of shoulders that were stooped and round. We could not tell whether the group had formed facing us or with their backs to us.

A chill crept over and through the dome as the formations fell in. The sounds in our walkie-talkies grew in volume. I

think we all sensed menace in the words that were not human words, in tones that were not human tones. We could sense growing menace, and intonations of command.

We could make out nothing resembling any weapons we knew, but never once did we doubt that the shadows were forming against us. We forgot, while the shadows closed ranks, that we had been fed, watered, kept warm. This was no friendly demonstration.

The Shadow Men started closing in. I gave the command for which my men had been waiting, and for the first time the sailors came out of the landing craft to take part.

A vast circle of shadows closed in on us as we formed for defense. Old-timers remembered the ancient "Form for Bolo Attack" as we arranged ourselves in concentric circles, the automatic weapons outside, riflemen behind them with bayonets fixed. There was a rifle and bayonet for each man, including the automatic weaponers, for use if the automatics went out of action.

"No firing until I give the word," I said. "Music!"

"Music," in the Navy, of which the Marine Corps is a proud part, designates a trumpeter or drummer or bugler—whoever beats to quarters or blows the bugle-calls.

"Here, sir," said Trumpeter Krane.

"Blow something," I said, "It doesn't matter what. I'm just curious about what effect it will have."

"How about 'Boots and Saddles', sir?" he asked. There was a snicker, the suggestion of laughter from the marines.

Trumpeter Krane did a good job with "Boots and Saddles". It was a brave sound, but it had no effect whatever on the advancing Shadow Men. As the big circle contracted, every other Shadow Man dropped back, forming an outer circle. One thing that seemed to make

clear to us: the Shadow Men had mass. They occupied space. Bullets, then, should have some effect on them.

"Preble!"

"Aye, aye, sir!"

"Scatter some bullets ahead of those things, far enough ahead so that they'll ricochet over them."

Preble stood up and let go with his ultramodern fast-firer. For a few seconds, as he played the weapon's muzzle like a hose, the Shadow Men were obscured by the cloud of kicked-up sand. The sand fell at once, of course—and the Shadow Men were coming directly on! Moreover, there was a grimmer note in our walkie-talkies.

"One fast-firer at each cardinal point of the compass," I said.

Marines in action are something to see. In a split second the Shadow Men from all sides were being warned by bullets. But they came right on.

"No other choice," I said quietly. "Shoot into them: Fire at will!"

Thousands of steel-jacketed slugs poured into the Shadow Men. But not one fell, and not for so much as an instant did they hesitate in their advance. Now other men had fallen back so that four concentric circles of Shadow Men closed in on us. They were quite close when they halted. I was just preparing to order our new explosives to be hurled among them, when, directly in front of me, a shadow detached itself from other shadows. It strode forward a few paces and halted. The clumsy arms seemed to gesticulate. The sounds of whispering came louder in our walkie-talkies. I think we all felt that in some way we were being challenged.

"Someone is to go forward," I said. "I don't know what it wants, but—Hold your fire, now—not that it seems to be worth much!"

I rose and started forward, conscious that there wasn't a movement among the marines, nor among the Shadow Men. I

wondered as I approached the foremost shadow, how we would make ourselves understood to each other. The other entity must have some idea or there would be no suggestion of a parley.

I must have been halfway there when I was aware of running footfalls behind me. I didn't turn—and by failing to turn I saved my own life at the expense of PFC Yount's. The footfalls were right behind me, but I wasn't expecting what happened. Arms went around my legs in as neat a tackle as ever leatherneck footballer pulled. I was thrown on my face so hard I couldn't breathe. I don't remember when I've been downed so hard.

By the time I got to my knees Yount was almost in contact with the detached shadow. He had a trench knife in his hand; drew it right after tackling me. I could see everything that happened.

PFC Yount flung himself straight at the shadow. I saw him disappear into the shadow, emerge on the other side. But there was a difference: *he went in a marine in full battle dress; he came out a completely articulated skeleton.* He had been stripped of clothes, shoes, weapons, skin, flesh and life—so quickly that his forward impetus carried his skeleton on through the shadow.

Now four marines were beside me. A growl rose from the others. I had to yell at them, over my shoulder: "Stand fast! Do you want the same thing to happen to you?"

The four men beside me—I didn't look to see who they were—simply waited.

"Okay, just be careful not to touch any of the shadows," I said. "Apparently that's where the danger is."

Not a shadow moved, not even the one through which Yount had gone to his death. The five of us then, rose and moved straight forward. As we came close I could smell something in the shadows, a vague, pestilential odor, like nothing I had ever experienced.

"I smelled its like, sir," said one, Haggerty, I think, "where men lay too long unburied. This is just a far hint, but it's like it, some way."

We went around the detached shadow. There was no sound, even in our walkie-talkies, now. It was almost as if, honoring an ancient military custom, the Shadow Men were allowing us to collect our dead. I could not see into or through the shadow. It was still so shapeless, even when I was close enough to touch it, that I could not tell anything of its true nature, or whether it, or any of the Shadow Men behind it, were armed. I could see the result of too much impetuosity, however, in the skeleton—snow-white, as if it were that of a man long dead in the burning desert sands—of PFC Yount. I tried to remember, as the others carefully gathered up the skeleton—Haggerty later said it was still warm!—whether Yount had uttered any sound, but could not remember.

Some men said later they were sure they heard a muffled scream, the scream of a man in mortal agony, but I doubt it.

I think it was an afterthought, strictly imagination.

No attempt was made to keep us from retiring with the skeleton of Yount. As soon as we were back, and had placed it against a side of one of the LCVP's for burial later, the Shadow Men again began their inexorable march.

"Sailors!" I called. "Break out the flame throwers."

We surrounded ourselves with a sheet of flame, hot beyond anything used in World War II. We sprayed the stuff into the faces of the advancing Shadow Men; we blotted them out.

They were erased as if they had never been.

At my command the flames stopped—and the Shadow Men were still coming on.

NOT VERY hopefully, I gave the command to use the flames again. We still had tricks in the bag, but if they proved no more effective than what we had so far used—I shouted my next command:

"Stand by to charge! Hang onto weapons! Go between them! Don't touch one of the shadows! CHARGE!"

I didn't tell the marines to face in any given direction. I merely wanted as many of them as possible to get through the closing cordon.

With a wild, defiant yell the leather-necks charged. As I ran I looked for some opening through the concentric circles. If flesh or skin, clothing or equipment, touched one of the shadows—

It was the queerest ducking and darting game I had ever played. We must not run into one another, we marines, or we might push one another into the shadows—and we knew what had happened to Yount, would never forget it.

It was like trying to dash out through a crowded theater, save that in a theater you didn't lose your life if you happened to touch anything.

I got through, out behind the last circle of Shadow Men. As soon as I was clear, in the cool, starlit waste beyond, I turned and looked back. The circles were still closing, with the LCVP's in their approximate center. To my right and left other marines were emerging from among the Shadow Men.

I looked, and looked away. Some of my own marines were a sight to turn the stomach. It's hell to see an apparently healthy marine standing, stupidly staring at the skeleton of his arm, to the shoulder. . . . I saw no skeletons in the sand after the marines came through and the Shadows went on. I breathed a sigh of relief. A marine could get along with one arm, and even the skeleton of the other might have possibilities; but a dead marine was dead and done.

I turned and looked back at the closing circles of Shadow Men. As the strange platoon closed in, more and more shadows stepped out of the circles, to form still more concentric circles.

The middle LCVP happened to be the center of the closing circles. The first Shadow Man reached it and stopped, right in the LCVP. Others closed in there—and merged with the first. The Shadow Men were piling themselves into a black heap within the landing craft.

Still the Shadow Men marched inward, converging on that central spot. The heap of blackness in the center did not grow larger. It was as if there were some sort of hole there, into which the shadows were pouring, like water into a funnel.

The last ring of Shadow Men stepped into the LCVP—and vanished.

Well outside the place of disappearance, looking as if they were participants in a nightmare, were the marines. Every last officer and man, with most of our weapons, had got through the cordon of Shadow Men.

It could have been a dream, but for the skeleton of Yount, there by the LCVP, and the fact that several men had touched the shadows and been severely injured. Four hands were missing—save for the bones. One man had lost an ear, but he laughed. "It could have been my whole head!" he said. "What's an ear?"

"We got through with extraordinarily good luck, sir," said Haggerty. "What do we do now, sir?"

"What can we do, except wait and see what happens next, Captain?" He had no answer for that.

Automatically, we buried the skeleton of Yount. First his closest friends went back to the spot where his body had disappeared, and hunted for remnants. They didn't find so much as a button of his uniform or a screw from his weapons, or any part even of the steel blade of his trench knife. The detached shadow had

absorbed everything of Yount save his bones.

The shadows were, in some fashion, chemical, that seemed clear enough. But beyond that we were all stuck. They were not human. They were maneuverable, plainly; but not *self*-maneuverable. Who, then, or what, controlled and manipulated the Shadow Men?

The Shadow Men, it gave us a shiver to note, left no footprints. Nor had they in any way affected the landing craft.

After the starlit funeral, we re-formed as we had been before the sudden appearance of the Shadow Men.

"Mother of God!" cried Krane, the trumpeter. "It's starting again. But this time it's different!"

We all whirled to look. Coming out of the northwest was a group of scarecrow figures. They didn't look like our Shadow Men. I didn't recognize them at first, though I could hear their hoarse panting, their rasped words. They staggered like men far gone in hunger and thirst. One of them fell on his face, struggled to his knees, came on.

"Japs!" cried Haggerty. "Japs! Attacking, too, and this is nineteen forty-nine!"

It couldn't be true, yet it was. There were rusty rifles in the hands of the Japanese, rifles that plainly would not work. As if to emphasize this, they began to throw them away.

One of them called out to us, in English:

"Water! Food! We surrender! We surrender!"

Japs? Surrendering? In Cuba—or thereabouts!—in 1949? I was tempted to laugh, until I remembered something that was absolutely no comfort whatever: in other parts of the world, a long way from Cuba, Japs still were holding out against patrols that hunted them down, Japs who somehow hadn't got the word that the war was over, or else refused to believe it.

I WAS proud of the marines when the Japs asked for food and water. Not one of them spoke up and said, "You don't need either one here." I knew then that every marine regarded it as at least *possible* that what was happening to us was a top-brass secret, or series of secrets, of our own government. I doubted it because of what happened to Yount. The government doesn't risk human lives on a whim. But the possibility was there. I hadn't expected Yount to tackle me, either, or to hurl himself into the shadow which slew him.

We all had canteens, none of which had been emptied. And no landing would have been properly simulated without food. We let the Japs come among us, then Hoose, who spoke some Japanese, and Matzuku, a Jap corporal who spoke some English, got together.

The Japanese were seated with their backs against an LCVP and canteens were passed to them, together with our special rations. They drank as if they had forgotten the glory of water, ate as if they had forgotten how. I gave them a little time. We did not pull in our defensive rings, even though it could be seen that they were not especially useful. When the Japs seemed more or less sated, I got Matzuku and Hoose together and began asking questions.

KING: "Where have you been for the past four years?"

MATZUKU: "Hiding out in the hills. What place is this? I know the whole island, but I don't remember this desert area."

KING: "What island?"

MATZUKU: "Guam, of course, as you Americans call it."

I pondered the matter a few minutes. It wasn't possible that these Japanese had finally decided to surrender, had started hunting marines to whom to turn in their rusty weapons—then walked through the invisible dome, out of the hinterland of

Guam into the midst of what we fondly believed to be Cuba. Yet here they were, flesh-and-blood men, and here were we, also flesh-and-blood men—or so we thought.

Of course, Matzuku and his men were as much prisoners as we were. They were not only prisoners of whatever manipulated the dome, but they were our prisoners as well. There was nothing they could do, nowhere they could go with any secrets filched from us; but I decided not to tell them anything.

Matzuku, I noticed, was studying the sky. I watched his brown face as he struggled with some idea that plainly had him buffaloed. He looked at me quickly, then looked away. He knew something, but was afraid to say what it was. I could at least make it clear to him that he was not crazy, need not be afraid to say what was in his mind.

"You are amazed, corporal," I said, "to discover that you can't possibly be on Guam. I see that you know something of astronomy. It won't be taken amiss if you hazard a guess as to where you are, and how you got here."

"I should like to do that, sir," said the Jap corporal, "but it does not seem possible that we should merely have seen a marine patrol, scouting the jungles of Guam, approached them to surrender, and found ourselves in the Kalahari Desert! It isn't possible, therefore I must not know the stars as well as I had thought. And yet, sir, I *do* know the stars. Unless this is delirium induced by fever, lack of water and food over the years, we *are* somewhere in the Kalahari Desert!"

"Let's go have a look, Matzuku," I said. "You, too, Hoose. Haggerty, you'd better stay with the command."

Matzuku, Hoose and I started back the way the Japs had come. Matzuku seemed to have forgotten his fatigue, the fact that he had been practically a walking dead man when he approached the "patrol" to

surrender. Ten sets of footprints led in a wavering line back to the invisible dome which hemmed us in. Hoose and I hung back to let Matzuku go on ahead of us. He came to the invisible wall and halted, looking foolish as a fore-thrust foot slid down what appeared to be nothingness.

The footprints all ended against the invisible wall. Moonlight shed its brilliance over everything, and we could see far out beyond the invisible wall, into the eerie area of sand dunes, stunted brush, to a horizon which offered no hope whatever.

"We couldn't have come from out there!" said Matzuku wonderingly. "We came out of the Guamanian jungles, but our footprints don't start until we reach this invisible barricade." Matzuku turned on me. "I have no right to ask, but what kind of a concentration camp is this? We Japanese have much experience in camps, but we use barbed wire, high rock walls with broken glass imbedded in their tops, or dungeons and caves."

I grinned at the little corporal.

"You don't use energy domes, then," I said, "or compress invisibility into a solid?"

"No," said Matzuku, "do you?"

He had guessed we were prisoners also. I didn't explain. After all, how could I? We three went back to the LCVP. I ordered the Japanese into the LCVP on our right flank, placed a guard over them, not because we had any fear of them, but so they would not hear our discussion. They showed no interest whatever. They sprawled out on the deck of the LCVP and were asleep, and raucously snoring, before we met in plenary session—save for the single guard over the Japanese—near the grave of Yount's skeleton.

"Could we really be in the Kalahari Desert?" asked Haggerty.

"We could," I said. "The Japs could also be decoys, deliberately sent to us to make us believe whatever we're supposed to believe. I'm only sure of one thing:

we're not on Yataritas Beach, Cuba!"

"Are we really sure of *that*, even?" asked Captain Haggerty. I had to admit that we were sure of nothing.

"We seem to be unmolested for the time being," I said. "But we can't just sit here and brood. Those of you who want to sleep, turn in wherever you like. Those who want to help figure out what has happened to us, assemble here with me and we'll see if we can get anywhere."

"You don't suppose, sir," said Krane diffidently, "that we're all—dead, or something? With all those fancy explosives we brought along—"

Nobody laughed. Nobody snickered. And nobody drew away to hit the sack.

"I don't believe we're dead, Music," I said, "but I could be wrong about that, too. I think your 'or something' comes about as close to an answer as anything we have. Now, I'm open to suggestions as to how we find out what ails us, where we are, how we get out; what, in general, it all seems to be about."

"The Shadow Men," said Ziegler, "what were they?"

Nobody knew.

There was something in the shadows. A smell, and something else. Why didn't the stuff, whatever it was, destroy bones as well? Had we really heard Yount scream inside the shadow?

We recapitulated everything we could remember. As if we could forget anything! And it all added up to a nightmare.

"The walkie-talkies," said Haggerty. "We've got eighty-odd of them. They can all be adjusted to different wavelengths. I suggest we estimate how many, and then each of us take his share of them, and start sending, not only in Morse and International codes, but in every language we know, down to Greek and Latin!"

It was long past midnight by the time we had worked out charts of wavelengths for the walkie-talkies, and divided them among us. Then we scattered, first strip-

ping off our jackets and laying our fast-fire weapons on them to keep the weapons from being fouled by sand. We needed our hands free.

"The first whisper anybody gets, he'll sing out," I instructed officers and men.

Marines acquire a lot of miscellaneous information—and plenty of misinformation. Among seventy-five or eighty one would find a dozen European languages, Gaelic probably, three or four Chinese dialects, a smattering of Congo jabbering, a spot of Latin, a touch of Greek. If someone asked me, anywhere, anytime, in the presence of as few as a dozen marines, if any of them knew Sanskrit I would hesitate to say no.

We turned all that mess loose on our walkie-talkies. If anybody ever really "shot the moon," it was us.

CHAPTER THREE

Alien Voices

EACH man had his message pad on his knee, or on the sand beside him, opened up. The moon was so brilliant we had scarcely any need of the illuminated pages with which each book was equipped.

Within fifteen minutes our walkie-talkies were going wild. Every last one received first, the eerie whispering. Then the men began to report shouts, weeping, wordless screams, unearthly music, wind instruments, ~~51~~ drums, tom-toms—just about every noise-making agency of which any of us had ever heard.

Was all this in answer to our attempts to communicate? How could we make contact that would also make sense?

So far, the sounds were no more informative than static. But it was something, when we had been hearing nothing at all, so we kept at it.

We kept it up for three days and nights. The Shadow Men did not return during

that time. The Japanese gradually mingled with us. They realized that we knew no more of our situation than they did, possibly less, and joined with us in trying to work it out.

It was midnight, the fourth night of our disappearance, when we got a break.

Ziegler brought me a message which said: "You are wasting your time. Contact like this is forbidden."

I looked at Ziegler.

"You got this in English?" I asked.

"No, sir. It's Mangbetu, an African dialect. I did some work among those people, some years ago. It's difficult. I could be mistaken, but I don't think so."

"Did you answer this?"

"No, sir."

"Go ahead," I said, "confirm! We'll see what happens."

He chattered something into his walkie-talkie. Instantly all sound died out of every last walkie-talkie.

We'd accomplished—what? Only something remotely confirming Matzuku, the Japanese who had located us in the Kalahari Desert of Africa.

We slept by fits and starts. The Shadow Men did not return. Silence held sway in our walkie-talkie receivers, though we kept on sending. Ziegler gave us Mangbetu words to use, but nothing came of it. That line of investigation was clearly ended.

We began working on the inner wall of the dome with our entrenching tools. That started something!

IT WAS now clear that if we ever got out of wherever we were, we would have to do it on our own.

First, to establish the exact circumference of the dome, I formed all hands, sailors, marines and Japanese, in a single column and we did the circle. I wanted everybody whose lot was our lot, to know every detail that might later prove valuable. The area under our feet, avail-

able to us within the dome, we estimated at ten acres. That gave us considerable inner surface of wall and dome to be studied. We could not see the dome, we only knew it was there. We had small radar and sonar sets, but the dome registered on neither. Nothing we shouted was echoed back to us, nor did the chattering of the fast-firers cause reverberations. With those fast-firers, the ultimate in small arms, we searched out every quadrant of the dome, to see if there were any opening. In the same way we searched out every yard of the wall; there was no way out, at least of any size, for I'd have wagered, so carefully was this job done, that if one bullet fired into dome or wall had fallen outside, some one of us would have spotted it.

We used up a lot of steel-jacketed bullets, but we found not a single aperture in the wall or dome.

Next we worked on our super-grenades, of which we had a fairly good supply. This was dangerous work; we had to dig trenches from which to heave them. Even the rifle grenades were dangerous because of our limited escape area.

The grenades did nothing to the wall; nothing whatever.

The flame-throwers accomplished little more. There was danger with these, too, for the flame bathed the wall—we could see it strike and blossom up and down—and backfired so that it was a wonder all who stood behind the machines were not wiped out. And even the flames did not affect the wall.

We even, so help me, tried to talk a hole through the wall! Yes, Krane thought of it, Trumpeter Krane.

"Maybe we could find the key sound of the dome," he said, "and shatter it with sound. You know, like marching steps shaking down a bridge."

Well, we tried, but got nowhere.

"Shovels, then," I said. "Entrenching tools! Maybe we can go under."

All hands groaned. There is nothing a marine or sailor dislikes more than digging in—even when bullets are flying thick and fast.

I think we were all a little mad then. It was bad enough to dig down into sand that poured into a hole faster than one could dig, but to accomplish nothing by doing it was heartbreaking. By day we perspired like hippos, rubbed the skin off our palms, got raw and bleeding where our clothes chafed. Water and food were no problem, for our mysterious source of supply never for a moment ceased or abated.

We fought that wall for days and nights on end, as a mob, in shifts, and singly. We got nowhere. There were times when the sand inside the dome looked as if a huge animal had been rooting, or a crowd digging for treasure. But when we stopped for a few moments to rest we could hear the sand whispering with glee as it slid back into the pits we had dug—leveling off the area again.

We managed in some places to get down ten feet or so into the sand, and to witness a strange phenomenon. We never got under the wall, nor were we able to penetrate it anywhere, yet when sand poured back into the pits we dug—it poured back from beyond the wall, too, as if there were no obstruction! It poured in, apparently through the very wall we were trying to breach.

Naturally we wondered, if we had been digging on the outside, trying to get in, if the sand would have poured outward into the holes, too. We all remembered how we had got into the dome so easily, yet we could find no way, shape, form or manner to get out.

The Shadow Men, however, had escaped. . . .

Yes, we studied that LCVP that had seemed to be a funnel by which the Shadow Men coalesced into one shadow and vanished, but could find no key to the

means or manner of their strange escape.

We were resting one afternoon, and Haggerty had just said this was the most unsatisfactory duty he had ever performed in twenty-some years of landing with the marines around the world, while Hoose suggested we ought to have a name for this nameless area, and Trumpeter Krane offered "Outpost Zero" as the most appropriate—when Preble erupted: "My God! Look!"

He was pointing up through the dome. Spinning down toward us from an empty sky was a ball of something that looked like metal—or perhaps crystal. It glistened and shone in the sun. It almost hurt the eyes.

Nobody said anything as that ball came closer and closer. I think we all knew what it was, though none of us had been at Hiroshima that fatal day.

We saw the A-bomb disintegrate, almost lazily, directly above our dome.

No one who has seen the Hiroshima pictures needs a further explanation of what we all saw. Only, this A-bomb was far more powerful than the first one. Only one nation, we all thought, could have it.

Why would our own people be so intent on wiping us out?

In a split second we were in the midst of the cloud, in the heart of the explosion, each one of us trying to convince himself, by pinching, that he was actually going through an A-bomb explosion—absolutely unscathed. Not even a sound came through.

We were sitting in the middle of the perfect defense against the A-bomb, but we didn't know what it was or who had made it—and we couldn't get out of it!

There was comfort in the knowledge that *someone* knew, else how did it happen that the A-bomb made what would have been a direct hit on the dome if it hadn't been detonated about a thousand feet above? There was design here, all right—but *whose*?

Nobody could imagine our own government addressing us in Mangbetu!

WE THOUGHT we were all dead men. We had all seen pictures of survivors of Hiroshima, with their skin burned off their bones.

The Japs had not seen. They had been in the Guamanian jungles and had not even heard of Hiroshima. I told them. They looked at one another in amazement. All this time we cowered in the heart of the explosion, and for the first time we could see the shape and extent of the dome which imprisoned us. It was outlined in smoke through which shot tongues of blue, green, and salmon pink. In the cloud which surrounded us we could see all the prisms play—and inter-flashing of lights of all colors that was unbelievably awesome. Yet we heard no sound. There was an eerie glow on the sand around us which must have come from the light, but if it had any ill effect on our bodies we have not yet become aware of it.

We had kept our watches wound and synchronized, so we timed the duration of the blast. The cloud about us lasted for two hours. Then it began slowly to disintegrate.

"Out to the walls, now," I said. "We'll move out from the center as skirmishers. Then, at my signal, when we're against the wall, we'll circle to the right until we have examined every inch we can reach or see."

Far above the dome we saw the great snowy mushroom of the blast's residue, with lights playing through it. We looked out through the wall at the sand beyond—and there *was* no sand. Only a landscape shaped as it had been when it had been sand; but now it was a smooth, rolling expanse of light green! The blast had been a vast primordial glazier, and the sand was not sand now, but green glass—right up to the outside of our still invisible dome! We marched out and

looked through. We did the natural things, like putting our hands up beside faces that we pressed nose-flat against the invisible. The wall felt warm, but no warmer than it had felt before the blast. Our dome had withstood every possible destructive effect of the A-bomb blast!

I stood there, staring out. I looked around, and the marines, sailors and Japanese were standing in the same manner—looking out and through like children looking through a zoo fence.

We must all have realized it at the same time. I noticed, first, that there was suddenly a space between the outside of the wall and the sea of green glass. I noticed that it ran away to right and left, a border between the glass and our sand, which became a little wider even as I stared. Then I felt pressure against the toes of my field shoes. Then I was being pushed bodily back, and the sand border outside was a foot wide!

I whirled this time, back against the wall, to stare at the others. They were all facing inboard, too. It was clear that all had noticed the widening border, that each knew the fact: our dome was closing in on us, all around.

Probably most of us had read Poe's "Pit and the Pendulum" and enjoyed the spine-tingling horror of the walls closing in to crush the hapless victim.

Just now it was far from thrilling.

From all sides the wall closed in. We looked away to the south. The entire mountain there had become greenish, as if it, too, had turned to glass.

"No one blast," said Haggerty grimly, "did that. Not even the best we have in A-bombs could have done so much. That mountain is ten, fifteen miles away, at least. There must have been more A-bombs. . . ."

"And maybe more domes," said Hoose. "How do we know that this whole desert isn't dotted with them?"

"Each one with its bugs under it for

scientific study," said Haggerty wryly.

My mind went around and around. The Shadow Men . . . Mangbetu . . . the blast . . . the desert . . . the betrayal by the very sky itself . . . the Japanese . . .

I had to turn it off or go crazy. Besides, the closing wall wasn't giving us much time. Faster and faster it advanced.

It was clear that we were being pushed deliberately inward on the LCVP's. Within a few minutes we were practically on the LCVP ramps.

"Grab all weapons!" I yelled. "Don't risk finding them on the pay roll!"

Marines who lose weapons have to pay for them. That's what I meant, silly as it seems in the circumstances.

Just as we were falling in at the sand-covered ramps of the three LCVP's, Krane cried out: "Where are the Japs?"

It gave me a chill. There was no escaping a peculiar fact: that even while the invisible was herding us, assembling us before our LCVP's, something of it, or about it, had snatched away the Japanese. They had simply vanished.

The walls were not circular now, but oval, roughly encompassing the LCVP's. Haggerty assembled his men before his LCVP. Hoose did the same. Mine assembled about me on the central ramp.

Then, when we were inside, in position as he had been when we landed, with only one man missing—Yount—the wall ceased closing in. For ten minutes we wondered about this. Then I had a hunch.

"Can we raise the ramps without the motors?"

We couldn't, not all the way, but we could, with two men at each outer corner, raise them about four feet, catch and hold them with their rattling chains.

When we figured this out we did it by the numbers—

And we almost left twelve men on the beach!

No sooner had we raised the ramps than the Caribbean was tugging at our

LCVP's, the waves trying to take them back to sea. Our ramp men jumped up on their ramps, rolled crazily into the LCVP's, and the ramps raised all the way, clicking into place to become the prows of the unwieldy landing craft.

Cries of glee rose from our boat-handlers. Motors caught on the first try, exactly as if they had not been idle for two weeks, and the LCVP's were backing away from Yataritas Beach, turning, heading out to sea. I whirled and looked out into the deep blue. I think all of us expected to find the *Odyssey* still standing off, waiting for us. But it wasn't there.

"Can we make it back to Guantanamo Bay?" I asked the motorman. "Never mind answering; we're going to!" A cheer rose from the marines and sailors as we rounded the point we had never expected to see again, and started west, in deep blue water, along the coast.

LCVP's aren't good travelers. They roll like eggs on a hill, but this time nobody got seasick.

"Outpost Zero," said someone, looking back at Yataritas Beach. "If I never even hear of it again it will be too soon!"

WE KEPT in close formation as we approached Escondido Bay, outside the Reservation. There a cruising plane picked us up, dipped wings over us, looped and headed full speed back to Guantanamo.

We all crawled up our starboard sides, tilting the LCVP's far over, and not caring a bit, to pick out landmarks ashore that we knew—Kittery Beach, Windmill, Cuzco, Blind, Blue and Cable Beaches. Every one looked like home—and the marine hadn't lived, up to that moment, who regarded Guantanamo as home!

There were many planes out, including some of our jets, by the time we reached the mouth of Guantanamo Bay. Luckily the long run was made in fairly smooth water.

We crossed the shelf where the deep blue water of the Caribbean becomes the green-dirty water of the bay, and were as good as home.

I planned on making it to the Marine Boat House, but the Admiral's launch came out, with a staff officer aboard, with instructions to land at the Admiral's own dock.

I guess it didn't matter much where we docked, for the point of land on which the Admiral had his quarters was covered with uniforms. Marines and sailors were kept back by MP's.

The Chief Staff Officer placed me formally under arrest, "for absence over-leave," he said—though there was a suggestion of excitement in his voice that made me suspect subterfuge. One thing was certain, an officer under arrest kept his mouth shut. I couldn't tell anybody anything. The same thing, or something like it, happened to every one of us. We were all completely muzzled by being placed under arrest. Whatever else we might be, we were "hot."

Then it was that we worked together as even marines did not always work together—and the six gobs pitched in, too.

I made out this report, with the understanding that it would be seen by every leatherneck and sailor, and not submitted until all were satisfied with its accuracy.

I told what seemed to have happened to us. As commanding officer I was requested also to express an opinion. I had none to offer, except that two news bulletins, received over the radio the next day after our return, gave me something to think about.

One of the bulletins explained in somewhat guarded language, that new A-bomb experiments were being made—not in mid-Pacific, in Bikini, but in the heart of the Kalahari Desert! So careful were the brass hats in this important series of tests, that no words in any civilized tongue were allowed to be spoken even on

intercom sets! The report didn't mention Mangbetu, but it did say "little known African dialects." This wasn't an unusual procedure, by the way—Comanche Indians had been so employed in World War II.

And what were those people testing, besides the newest thing in A-bombs?

"Part of the test," said the voice of the announcer, "involves an amazing above-ground bomb-shelter! This shelter, of secret manufacture, is believed to be proof against anything except the explosion of the planet itself. Not only is each such shelter capable of great extension, thus to handle large groups of people, but built into it is something new in provisioning. People who are forced into these shelters by sudden attack, are automatically provided with food, water and equable temperature, by a process which provides these necessities as separate exudations from the inner walls of the bombproofs!"

"Some fear was expressed, in the midst of the tests," said the announcer, "that there were traitors even among the carefully screened technicians—for despite orders, for a period of three days not only English but many other languages, including the secret dialect used by the technicians, were heard in their intercoms!"

I shivered at that, remembering how, for three days, we had tried every tongue of which we could think. Gradually a picture was beginning to emerge.

"It was feared for some time that some potential aggressor nation had managed somehow to get past the Kalahari guards and ferret out secret information—or else that there was already a fifth column among the technicians!"

No mention anywhere, of the Shadow Men!

I was scared stiff when I realized this. For those Shadow Men, it now seemed, had accomplished something the A-bomb had not been able to do; they had got inside the bombproof, killed Yount—and

could easily have killed us all—and got out again.

"The experiments," said the announcer, "were of course carried out by the United Nations Security Council. The results have not been announced in every detail, but the world has been informed that complete security against the A-Bomb has been produced and will be available if ever there is another world war!"

But what about the Shadow Men?
What good was the best bombproof if it could be entered so easily, and everybody inside it destroyed?

On the next day after our return I picked up a brief broadcast which I could easily have missed.

"It appears that there are still Japanese soldiers, hiding out on Guam, who do not know that the war is over. Ten Japanese, led by a Corporal Matzuku, surrendered yesterday to Guamanian authorities! How they survived for almost four years is a mystery. They appear well fed."

I got this far and realized that I knew a great deal of *what* had happened, but not *how*. How we and the Guamanian Japanese had been netted under the same bombproof, for instance—they on Guam, ourselves on Yataritas Beach, Cuba.

I had no explanation for the Shadow Men—except that nobody but the "vanishers", ourselves and the Japanese, so much as mentioned them. They were, I felt sure, outside the knowledge of the Security Council.

The Shadow Men were some manifestation—chemicals, or instantaneously acting disease germs?—of a potential enemy fifth column which had horched in on the Kalahari experiments.

I can do no more. This report is respectfully submitted for transmission via official channels.

FIRST ENDORSEMENT

From: Commanding Officer, Guantánamo Marines.

To: Senior Officer Present, Naval Base.

Subject: Yataritas Beach Case.

I. But for the fact that eighty men concurred in the attached report I would request that Major Rafe King be ordered to Saint Elizabeth's for observation.

SECOND ENDORSEMENT

From: Senior Officer Present, Naval Base.

To: Chief of Naval Operations.

Subject: Cuba-Yataritas Beach Case.

1. I am not inclined to treat this report lightly, or to suggest that it be so treated elsewhere. Knowing how our marines, sailors, equipment and LCVP's were plucked up and transported to Kalahari, together with the Japanese, I am still in complete ignorance of the meaning of the "Shadow Men." If Operations has any additional information it is felt that this base should be made aware of it.

THIRD ENDORSEMENT

From: Chief of Naval Operations.

To: Commanding General of the Marines.

Subject: Cuba-Yataritas Beach Case.

1. This activity is aware of all details except the so-called "Shadow Men." If the Commanding General of Marines has any information, include it herewith and forward to Chairman, Security Council, United Nations.

FOURTH ENDORSEMENT

From: Chairman, Security Council, United Nations.

To: Major Rafe King, via all above channels.

Subject: The Kalahari Tests.

1. Returned for amplification. It is deemed advisable, in view of publicity attendant on the Cuba-Yataritas angle of the Kalahari Desert tests, to make public the following facts. First, best protection against the A-Bomb is worldwide observa-

tion by special television; the Council has it. Second necessity is ability to make the bombproofs, provided by the Security Council, available to anybody, anywhere in the world, who is threatened by attack. Bombproofs are capable of instant transmission to any spot on the face of the globe—and removal of bombproof *and occupants* to anywhere else in the world—as Cuba-to-Kalahari-to-Guam.

2. Amplification on the "Shadow Men" is required. Every nation in the world, on the honor of its chief executive, has denied all knowledge of the "Shadow Men." Any Fifth Column from "Outside" is considered fantastic beyond all possibility.

WELL, there it is. The high brass all along the way has spoken. Now it's up to me. I checked to find that every nation in the world *had* denied knowledge of the Shadow Men—except our own United States. But without asking for volunteers, our most ruthless high brass would not have sent us to face those shadows, wherein someone was almost certain to die horribly.

So, some nation has lied! We, the United Nations, have the perfect A-bombproof, capable of instant transmission to anywhere, it is needed. We can also see where it is needed, through our World Visual Section.

But, as usual, for every attack weapon, there is a defense. For every defensive weapon there is, eventually, a weapon which will crack it. We have the best defensive gadget ever constructed, but somebody has the grim, black answer to it!

WHAT NATION?

When the next bombs begin to fall, the name of that nation will be written into the murderous heart of every bomb. *Then* will tongues be freely loosed which now dare not give offense to any "friendly" nation!

(Continued from page 12)

I know my writing is bad, but the mathematical symbols (such as N naught) are rather hard to type on this type of typewriter, so I thought that I would write it, but never again!

Now to clear up a few things. The "squiggle" to which you refer was my feeble attempt at the English letter "m". The reason that I changed my notation was that I am unable to write superscripts and subscripts on my typewriter. Incidentally, the "Werliizer" that you have reference to is "Washington", the greatest college in the country. I scratched out a couple of short paragraphs, which I believe unnecessary to the content of the letter. You will also notice that I have numbered the equations. I did this so that you would include the following authorities for certain ones of these numbered equations:

1. Though I am here only calling 2^0 equal to N_1 , this is actually true, that is to say that the second aleph is 2 to the power naught. I will not here give a formal proof of this fact, but this proof can be found in any modern algebra text.

2. The reason for stating that N_1 is equal or greater than N_0 is that any transfinite cardinal is either equal to or greater than any other transfinite, since subtraction is not defined for transfinite. There actually exist infinities less than others but it can easily be shown that since N_0 is the first infinite cardinal, any other transfinite could only be equal to or greater than N_0 .

4. The reason that $(N_0)^2 = N_0$ is that for any transfinite cardinal Y , $Y^2 = Y$ where Y is any finite number.

5. and 6. This could only be possible if N_1 were equal to N_0 , since the only way in which a number can be both less than and greater than another number, is if these two numbers are equal.

Please include the above authorities for the steps in the proof. Here's hoping you can read this letter.

Regards,
Loren Benson

Want to take over here, Mr. Jones?

Dear Ed:

I've got one on Keran O'Brien. I stayed up half an hour later than he did before starting to write my letter.

"Outpost Infinity", I think, deserves its place at the head of the issue. Ray Jones has a good idea and treated it sensibly and sanely. The idea was striking in its novelty, and I'm glad the author wasn't carried overboard by it. It's startling to think that such a story, written sometimes as coolly as an article, can be pure, unadulterated fantasy! (Well, practically!)

Ron Hubbard is obsessed by the idea of a time differential in space travel. His "Beyond all Weapons", though, is outstanding as a story, presenting as it does in a very real and credible way the range

of human emotion from soul-stirring hope to complete despair, and making the reader see these emotions. However, I challenge Mr. Hubbard's mathematics.

Please bear with me while I set up a *reductio ad absurdum*. Suppose a space ship identical in size, population, etc., with the Earth; this ship to be called Terra. Assume Earth to be stationary; we may have to destroy the sun, and light the Earth with atomic power, but we assume this. Also assume the space ship in motion at a speed near that of light.

Now apply the special relativity equation of time to the time interval taken by a generation of humanity. A man on Earth says, "A generation here takes twenty-five years." A man on Terra says, "A generation on Earth takes less than a year. Earth has many generations while Terra has one." This much Mr. Hubbard will agree to. However, Mr. Einstein will agree with Mr. Newton, that when two systems are in uniform linear motion relative to one another, it is immaterial whether we assume one stationary, or the other, or both in motion. Hence, a man on Earth can say, "Terra has many generations while Earth has one."

All this is fine, as long as the people of Earth and the people of Terra stay separated. Each man's opinion holds perfectly well—for him. But, if you get them together again, their differing opinions are going to represent mutually contradictory physical facts, i.e., which of them actually had more generations?

The disagreement seems to come from the fact that Einstein's special relativity equations hold only for systems not in accelerated motion relative to one another; they apply only to systems in uniform linear relative motion. A space ship, in reversing its direction to return to Earth, necessarily undergoes acceleration, and Ron H. has overlooked this. Somebody please check me on this, as I may be wrong, and I hate to see a good writer like Ron blasted out of the s-f void.

I agree with Larry Rothstein that the covers don't agree with the stories, and agree that they should agree. Agree with ed that air in Jersey is bad. As for covers, and Calle, I'd like to see a former by the latter. Ought to be as attractive as a good necktie.

Scientifically,

Martin Brilliant
Washington & Jefferson College
Washington, Pa.

P. S. That is neither a pseudonym nor a *nom de plume*.

P. P. S. If you cut my letter for publication be careful with it. Writing of mine has been ruined by that sort of thing before, and I'll knife somebody if it happens again. (Okay?—Ed.)

Dear Editor:

The title "Missives and Missiles" indicates

that SSS prints brickbats as well as bouquets. I am now going to put this very praiseworthy purpose to a hard test by getting some of my gripes off my chest. I guess the easiest way to do this is by going over my ratings for the January-1950 issue.

1—"The Long Dawn"—This is the very best story by Loomis I've seen to date. I've no kicks about this one, or about the wonderful Bok illustration accompanying with a master's touch an already superb piece.

2—"Science Fictioneer"—In my opinion, this is the best book review feature in stf. No complaints yet, but they're coming, boy, they're coming.

3—"Beyond All Weapons"—Close to the top in quality this issue, yet this story is only interesting hack. It tests the imagination of even a hardened fan.

4—"Outpost Infinity"—Mayhew's C₁, Al-eph- Mayhew, cNulmayb-N.bMaC₁tnsYXZ 3V81, #3@%!*8/=56!!

5—"Fear Planet"—No comment.

6—"Fandom's Corner & Missives and Missiles (tie)"—The fan column is too short and far too outdated when it appears; the letter department is all right, but not extraordinary.

7—"Spin, Devil"—No doubt some of the jet-propelled Joes who write letters to SSS will point out the scientific fallacies in this humkajunk, but I have neither the knowledge nor the initiative.

8—"Fragment of Diamond Quartz"—Phaugg! Cummings, Prince of the Hacks, does it again!

9—"Final Frontier"—Phaugg! Phaugg!

Please understand that I'm not trying to set myself up as another Larry Shaw (he almost had me believing that stuff he writes for a while—believing he means it, that is). I think that SSS is about midway in the stf-fantasy mag standing. Are you going to stay that way, or do something about it? ! ! ! !

Sincerely yours,
Morton D. Paley
1455 Townsend Ave.
New York 52, N.Y.

Our aim is to continue onward and upward, Mr. Paley, ; ? ? ?

Dear Ed:

The main purpose of this communication is to throw confetti on thee and pound thy back heartily in congratulations for one of the best issues in a Plutonian decade. The illos especially. And I thought FN and FFM were the best-illustrated mags on the market, especially when it's one of Merritt's tales. Pooh, pooh and again I say pooh. SSS has graduated from (first and second postwar issues) a sloppy, ill-printed, ink-smear, generally lousy rag to a real honest to goodness pulpazine with class, and I can think of one or two competitors who could profit by thine example.

Back to the pix. They were really hyper-

supermacrocosmicolossal. Finlay was, as usual, wonderful with his illo on page 61. Bok was colossally jazzy with his swell pitcher illustrating "The Long Dawn." Callé (this bird must be new) was magnificent. Lawrence was lousy, but that alters my opinion of this ish not a whit. By the way, when I said the ish was good, I meant between the covers. This is an old and time-worn beef, but for Ghu's sake can't you do something about those covers? Just look at it.

That babe ain't wearing nothin' but a whirlwind, vortex, ah, whatchacallit. Gawd, even Bergey would turn over in his crypt, if the stake through his heart would permit. Did it illustrate something? No, unless it's Missives & Missiles. Did it make sense? No. Did it . . . well, observe. Where inside the book does it mention a barebacked wench, astride her trusty whirlpool, shooting zap-rays from her fingernails at flying discs bombing her obvious home (are those cracks on the planet canals, or is the fool thing falling apart?), hey, Ed? I've got it . . . now, next issue, what say we put the booze ad with the bunny rabbit on the front, leave off the back and pension Lawrence off. For shame, Lawrence. Fie on you, and after all those pretty covers you did on FN and FFM.

Oh, my. This was supposed to be a letter flattering you so's you would print my letter. Oh well . . . the issue was magnifico, the stories were swell and I have but one thing to say in regards to them: HOW IN THE NAME OF ALL THAT'S NULL-A DID "A FRAGMENT OF DIAMOND QUARTZ" GET IN YOUR MAGAZINE? I wouldn't criticize your judgment for the world, Ed old boy, but you must have been dead drunk when you signed a check for this. Oh, it was written fairly well, but Gawd! This is from what is known fondly as "the good old days" of stf, which was before my time, myself being but a "yunker" of 15, but I think I know whether this is stf at all or not. This was a pain in the neck. Joe Science takes a pill and diminishes to atom size, where BEM's make eyes at him and he finds a villain, and untold wealth. The only original wrinkle about this is that everybody except the BEM gets scragged in the end. Otherwise it's so old I . . . well, if I wanted to go into the microcosmic-diminishing-world field of so-called stf, I'd read only UNBELIEVABLE COMICS, forget pulps and start Austin Hall fan clubs.

Back to praise. The whole ish was so good I can't find a fault with it. It's perfect, it can't possibly be improved upon.

Enthusiastically yours,
George Warren
908 E. Park Ave.
Savannah, Ga.

P.S. Why in heck don't you get trimmed edges?

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SUPER SCIENCE STORIES

(Continued from page 75)

Someone else had played a trick on all of them. Langdon, maybe. Langdon, who had been given away as a pet to a thing so monstrous that even Cartwright had shrunk from naming it.

With shaking hand, West put the bottle back on the mantel, placed the cork beside it. For a moment he stood there, hands against the mantel, gripping it, staring out the vision port beside the fireplace. Staring down into the valley where a shadowy cylinder tilted upward from the rocky planet, as if striving for the stars.

The *Alpha Centauri*—the ship with the space drive that wouldn't work. Something wrong... something wrong....

A sob rose in West's throat and his hands tightened on the mantel with a grip that hurt.

He knew what was wrong!

He had studied blueprints of the drive back on Earth.

And now it was as if the blueprints were before his eyes again, for he remembered them, each line, each symbol as if they were etched upon his brain.

He saw the trouble, the simple adjustment that would make the space drive work. Ten minutes... ten minutes would be all he needed. So simple. So simple. So simple that it seemed beyond belief it had not been found before, that all the great minds which had worked upon it should not have seen it long ago.

There had been a dream—a thing that he had not even dared to say aloud, not even to himself. A thing he had not dared even to think about.

West straightened from the mantel and faced the room again. He took the bottle and for a second time raised it in salute.

But this time he had a toast for the dead men and the thing that whimpered in the corner.

"To the stars," he said.

And he drank without gagging.

GIFT OF DARKNESS

(Continued from page 83)

the subject began to use the facilities of the gym and the pool, I knew that the period of gravest danger was over. He gradually increased his own exercise time until, by the end of the sixteenth month he was in exceedingly good physical condition for a man of his years, slim-waisted, with increased chest expansion, clear eyes, muscular arms and a deep tan. Toward the other passengers with whom he came in contact he was rude to the point of boorishness, having completely lost his great passion to be liked, and having become sufficient unto himself.

"As is often the case, once his indifference to the other passengers was made evident, they began to go to almost any extreme to convince the subject that he was making a mistake about them. A definite clique formed, with the subject as the focal point. He never smiled and, when he spoke, it was generally a comment so wry that all present were nearly overcome with laughter. At length he began to respond by giving small parties. These parties added to my problems due to the sense of frustration on the part of those who were not invited.

"Since that time Mr. C. T. has appeared to be well adjusted to the trip and has remained, by all odds, the most popular person aboard.

"To summarize this case it is once again strongly urged by the undersigned that the line refuse passage space to androids, regardless of whether or not the passenger in question is aware of their nature. And it is respectfully pointed out that Mr. C. T. was not only enabled to make a satisfactory adjustment to the voyage—he has become better fitted for life. It would appear that when the Recreational Staff budget is considered for the return trip, this case should be a factor on the side of a much needed increase, both in wages and equipment."

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SUPER SCIENCE STORIES

(Continued from page 41)

Wirezine; The Fanzine Of Tomorrow. It is an hour spool of wire. There are no dues. All the money needed is enough to pay postage to send the spool. You don't have to be well-versed in fandom—just so you are interested in wire-recording. There are fifteen members, spread from Washington to Florida."

Don't forget to keep this column up-to-date by sending in the latest news of your fantasy organization.

THE FAN MAGS:

Southern Fandom, published bimonthly Moore, 2703 Camp St., New Orleans 13, by Lionel Inman and edited by Harry B. La. 10¢. Fourteen well-mimeographed pages and a cover in color. Fan articles, the best of which, though quite dated, is "Torcon Report" by Moore.

Dawn, the letterzine, October 1949, published bimonthly by Lester Fried, 2050 Midland, Louisville, Ky. 10¢. This is fandom's open forum. Cover and interior illustration by B. L. White are super-super.

Shivers, No. 1, Fall 1949, published by Andrew Macura, 230 Prince St., Bridgeport 8, Conn. 10¢. Sixteen well-mimeographed pages of fiction and poetry. Though not all the stories are strictly science-fiction or fantasy, this mag is very interesting and enjoyable. Excellent cover by Bob Johnson.

Florida Fantasy Fan, No. 1, November 1949, published bimonthly by the Florida Science-Fiction Society, 775 N.W. 13th Ave., Miami 35, Fla., and edited by W. H. Entrekin, Jr. 20¢. Four pages printed on good stock and featuring an article, "Why?—An Analysis" by Tom Pace, and club news, plus a short-short filler by L. Sprague de Camp. A nice mag, but 20¢ is too much for four pages. The editor, though, promises more pages in the future. You might look into this.

FANDOM'S CORNER

The Fanscient, No. 10, Winter 1950, published quarterly by Don Day, 3435 N.E. 38th Ave., Portland 13, Oreg. 25¢. One of fandom's best. Thirty-two pocket-sized, photo-offset pages filled with excellent fan art and many articles of outstanding interest. George O. Smith's autobiography, with photo and an index of all his published stories, is the star feature of this issue. By all means get a copy if you haven't seen it already.

Fantasy-Times, No. 98, published semi-monthly by James V. Taurasi, 137-03 32nd Ave., Flushing, N. Y. 10¢. This issue features news of pro mags, a movie column by Lester Mayer, Jr., and the annual report on the pro mags (in this issue, *Famous Fantastic Mysteries*), "1949 in Science Fiction," by Dr. Thomas S. Gardner.

Elusifanso, No. 4, published semimonthly by the Eugene Science Fantasy Society, Box 161, Eugene, Oreg., and edited by D. R. Fraser. 5¢. This little magazine is really going places and getting better every issue. Excellent cover by Rew, neat and clean mimeo and good contents. We liked the debate on reprint magazines and interesting news items by "Sandy", though we don't agree with the guest editorial by McCain. We think you'll like this little mag. Try it.

Slant, No. 3, Spring 1950, published by Walter A. Willis, 170 Upper Newtownards Rd., Belfast, North Ireland. Subscription rates to U.S. fans, four issues for one prozine, and well worth it. This magazine is printed, half-letter size, 26 pages. Fiction by 4SJ Ackerman, EEEvans and others, plus five good departments, well illustrated by woodcuts done by James White. You won't want to miss this one; it's a must.

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